SEQUENCE LISTING

<110> Mezes et al.

<120> Proteins and Nucleic Acids Encoding Same

<130> 21402-240

<140> 10/044,564
<141> 2002-01-11

<150> 60/261,014
<151> 2001-01-11

<150> 60/261,018
<151> 2001-01-11

<150> 60/318,410
<151> 2001-09-10

<150> 60/261,013
<151> 2001-01-11

<150> 60/261,026
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<160> 306

<170> PatentIn Ver. 2.1

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<212> PRT
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Pro Leu Glu Ala Pro Lys Cys Ala Pro Gly Val Gly Leu Val Arg Asp
         35                  40                  45

Gly Cys Gly Cys Cys Lys Val Cys Ala Lys Gln Leu Asn Glu Asp Cys
     50                  55                  60

Ser Lys Thr Gln Pro Cys Asp His Thr Lys Gly Leu Glu Cys Asn Phe
 65                  70                  75                  80

Gly Ala Ser Ser Thr Ala Leu Lys Gly Ile Cys Arg Ala Gln Ser Glu
                 85                  90                  95

Gly Arg Pro Cys Glu Tyr Asn Ser Arg Ile Tyr Gln Asn Gly Glu Ser
            100                 105                 110

Phe Gln Pro Asn Cys Lys His Gln Cys Thr Cys Ile Asp Gly Ala Val
        115                 120                 125

Gly Cys Ile Pro Leu Cys Pro Gln Glu Leu Ser Leu Pro Asn Leu Gly
    130                 135                 140

Cys Pro Asn Pro Arg Leu Val Lys Val Thr Gly Gln Cys Cys Glu Glu
145                 150                 155                 160

Trp Val Cys Asp Glu Asp Ser Ile Lys Asp Pro Met Glu Asp Gln Asp
                165                 170                 175

Gly Leu Leu Gly Lys Glu Leu Gly Phe Asp Ala Ser Glu Val Glu Leu
            180                 185                 190

Thr Arg Asn Asn Glu Leu Ile Ala Val Gly Lys Gly Ser Ser Leu Lys
        195                 200                 205

Arg Ile Pro Val Phe Gly Met Glu Pro Arg Ile Arg Tyr Asn Pro Leu
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Glu Cys Arg Leu Val Lys Glu Thr Arg Ile Cys Glu Val Arg Pro Cys
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Gly Gln Pro Val Tyr Ser Ser Leu Lys Lys Gly Lys Lys Cys Ser Lys
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Thr Lys Lys Ser Pro Glu Pro Val Arg Phe Thr Tyr Ala Gly Cys Leu
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Ser Val Lys Lys Tyr Arg Pro Lys Tyr Cys Gly Ser Cys Val Asp Gly
305                 310                 315                 320

Arg Cys Cys Thr Pro Gln Leu Thr Arg Thr Val Lys Met Arg Phe Arg
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Cys Glu Asp Gly Glu Thr Phe Ser Lys Asn Val Met Met Ile Gln Ser
            340                 345                 350

Cys Lys Cys Asn Tyr Asn Cys Pro His Ala Asn Glu Ala Ala Phe Pro
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Phe Tyr Arg Leu Phe Asn Asp Ile His Lys Phe Arg Asp
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<212> DNA
<213> Homo sapiens

<400> 3

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<212> PRT
<213> Homo sapiens

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35 40 45

Val Leu Thr Thr Pro His Asn Ile Ser Ser Leu Ser Pro Arg Gln Leu
50 55 60

Leu Gly Phe Pro Cys Ala Glu Val Ser Gly Leu Ser Thr Glu Arg Val
65 70 75 80

Arg Glu Leu Ala Val Ala Leu Ala Gln Lys Asn Val Lys Leu Ser Thr
85 90 95

Glu Gln Leu Arg Cys Leu Ala His Arg Leu Ser Glu Pro Pro Glu Asp
100 105 110

Leu Asp Ala Leu Pro Leu Asp Leu Leu Leu Phe Leu Asn Pro Asp Ala
115 120 125

Phe Ser Gly Pro Gln Ala Cys Thr Arg Phe Phe Ser Arg Ile Thr Lys
130 135 140

Ala Asn Val Asp Leu Leu Pro Arg Gly Ala Pro Glu Arg Gln Arg Leu
145 150 155 160

Leu Pro Ala Ala Leu Ala Cys Trp Gly Val Arg Gly Ser Leu Leu Ser
165 170 175

Glu Ala Asp Val Arg Ala Leu Gly Gly Leu Ala Cys Asp Leu Pro Gly
180 185 190

Arg Phe Val Ala Glu Ser Ala Glu Val Leu Leu Pro Arg Leu Val Ser
195 200 205

Cys Pro Gly Pro Leu Asp Gln Asp Gln Gln Glu Ala Ala Arg Ala Ala
210 215 220

Leu Gln Gly Gly Gly Pro Pro Tyr Gly Pro Pro Ser Thr Trp Ser Val

225 230 235 240

Ser Thr Met Asp Ala Leu Arg Gly Leu Leu Pro Val Leu Gly Gln Pro
245 250 255

Ile Ile Arg Ser Ile Pro Gln Gly Ile Val Ala Ala Trp Arg Gln Arg
260 265 270

Ser Ser Arg Asp Pro Ser Trp Arg Gln Pro Glu Arg Thr Ile Leu Arg
275 280 285

Pro Arg Phe Arg Arg Glu Val Glu Lys Thr Ala Cys Pro Ser Gly Lys
290 295 300

Lys Ala Arg Glu Ile Asp Glu Ser Leu Ile Phe Tyr Lys Lys Trp Glu
305 310 315 320

Leu Glu Ala Cys Val Asp Ala Ala Leu Leu Ala Thr Gln Met Asp Arg
325 330 335

Val Asn Ala Ile Pro Phe Thr Tyr Glu Gln Leu Asp Val Leu Lys His
340 345 350

Lys Leu Asp Glu Leu Tyr Pro Gln Gly Tyr Pro Glu Ser Val Ile Gln
355 360 365

His Leu Gly Tyr Leu Phe Leu Lys Met Ser Pro Glu Asp Ile Arg Lys
370 375 380

Trp Asn Val Thr Ser Leu Glu Thr Leu Lys Ala Leu Leu Glu Val Asp
385 390 395 400

Lys Gly His Glu Met Ser Pro Gln Ala Pro Arg Arg Pro Leu Pro Gln
405 410 415

Val Ala Thr Leu Ile Asp Arg Phe Val Lys Gly Arg Gly Gln Leu Asp
420 425 430

Lys Asp Thr Leu Asp Thr Leu Thr Ala Phe Tyr Pro Gly Tyr Leu Cys
435 440 445

Ser Leu Ser Pro Glu Glu Leu Ser Ser Val Pro Pro Ser Ser Ile Trp
450 455 460

Ala Val Arg Pro Gln Asp Leu Asp Thr Cys Asp Pro Arg Gln Leu Asp
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Val Leu Tyr Pro Lys Ala Arg Leu Ala Phe Gln Asn Met Asn Gly Ser
485 490 495

Glu Tyr Phe Val Lys Ile Gln Ser Phe Leu Gly Gly Ala Pro Thr Glu
500 505 510

Asp Leu Lys Ala Leu Ser Gln Gln Asn Val Ser Met Asp Leu Ala Thr
515 520 525

Phe Met Lys Leu Arg Thr Asp Ala Val Leu Pro Leu Thr Val Ala Glu
530 535 540

Val Gln Lys Leu Leu Gly Pro His Val Glu Gly Leu Lys Ala Glu Glu
545 550 555 560

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Arg His Arg Pro Val Arg Asp Trp Ile Leu Arg Gln Arg Gln Asp Asp
                565                 570                 575

Leu Asp Thr Leu Gly Leu Gly Leu Gln Gly Gly Ile Pro Asn Gly Tyr
            580                 585                 590

Leu Val Leu Asp Leu Ser Val Gln Glu Thr Leu Ser Gly Thr Pro Cys
        595                 600                 605

Leu Leu Gly Pro Gly Pro Val Leu Thr Val Leu Ala Leu Leu Leu Ala
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Ser Thr Leu Ala
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<212> DNA
<213> Homo sapiens

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<211> 114
<212> PRT
<213> Homo sapiens

<400> 6
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Pro Ala Ser Cys Gln Gln Gly Leu Gly Asn Leu Gln Pro Trp Met Gln
            20                  25                  30

Gly Leu Ile Ala Val Ala Val Phe Leu Val Leu Val Ala Ile Ala Phe
         35                  40                  45

Ala Val Asn His Phe Trp Cys Gln Glu Glu Pro Glu Pro Ala His Met
     50                  55                  60

Ile Leu Thr Val Gly Asn Lys Ala Asp Gly Val Leu Val Gly Thr Asp
 65                  70                  75                  80

Gly Arg Tyr Ser Ser Met Ala Ala Ser Phe Arg Ser Ser Glu His Glu
                85                  90                  95
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Asn Ala Tyr Glu Asn Val Pro Glu Glu Glu Gly Lys Val Arg Ser Thr
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Pro Met
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<212> DNA
<213> Homo sapiens

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gtgactgtaa cacctccaat cacagcccag caaggtaact ggacagttaa caaaacagaa 180
gctcacaaca tagaaggacc catagccttg aagttctcac acctttgcct ggaagatcat 240
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tttcttgtta ttttttactg ctatataaga aagaggtgtc taaaattgaa atcgccttac 480
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<210> 8
<211> 154
<212> PRT
<213> Homo sapiens

<400> 8
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Thr Ala Leu Thr Glu Glu Ala Ala Val Thr Val Thr Pro Pro Ile Thr
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Ala Gln Gln Gly Asn Trp Thr Val Asn Lys Thr Glu Ala His Asn Ile
         35                  40                  45

Glu Gly Pro Ile Ala Leu Lys Phe Ser His Leu Cys Leu Glu Asp His
     50                  55                  60

Asn Ser Tyr Cys Ile Asn Gly Ala Cys Ala Phe His His Glu Leu Glu
 65                  70                  75                  80

Lys Ala Ile Cys Arg Cys Phe Thr Gly Tyr Thr Gly Glu Arg Cys Glu
                 85                  90                  95

His Leu Thr Leu Thr Ser Tyr Ala Val Asp Ser Tyr Glu Lys Tyr Ile
            100                 105                 110

Ala Ile Gly Ile Gly Val Gly Leu Leu Leu Ser Gly Phe Leu Val Ile
        115                 120                 125

Phe Tyr Cys Tyr Ile Arg Lys Arg Cys Leu Lys Leu Lys Ser Pro Tyr
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Asn Val Cys Ser Gly Glu Arg Arg Pro Leu
145                 150
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<210> 9
<211> 1293
<212> DNA
<213> Homo sapiens

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<210> 10
<211> 81
<212> PRT
<213> Homo sapiens

<400> 10
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Tyr Ile Phe Arg Val Leu Leu Gln Val Phe Leu Glu Cys Cys Ile Tyr
20 25 30

Trp Val Gly Phe Ala Phe Arg Asn Pro Pro Gly Thr Gln Pro Ile Ala
35 40 45

Arg Ser Glu Val Phe Arg Tyr Ser Leu Gln Lys Leu Ala Tyr Thr Val
50 55 60

Ser Arg Thr Gly Arg Gln Val Leu Gly Glu Arg Arg Gln Arg Ala Pro
65 70 75 80

Asn

<210> 11
<211> 679
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature

<222> (599)
<223> Where n is G or A or T or C

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aaaggatcca ggaaacgaag tgaagctaaa actctacgcg ctatataagc aggccactga 180
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ggtgtccagt ttgagtcctt cattggaatc ctctagtcag gtggagcctg gaacagacag 360
gaaatcaact gggtttgaaa ctctggtggt gacctccgaa gatggcatca caaagatcat 420
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<210> 12
<211> 205
<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> (184)
<223> Where Xaa is any amino acid as defined in the
specification

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Ile Asn Gln Val Lys Leu Leu Lys Lys Asp Pro Gly Asn Glu Val Lys
20 25 30

Leu Lys Leu Tyr Ala Leu Tyr Lys Gln Ala Thr Glu Gly Pro Cys Asn
35 40 45

Met Pro Lys Pro Gly Val Phe Asp Leu Ile Asn Lys Ala Lys Trp Asp
50 55 60

Ala Trp Asn Ala Leu Gly Ser Leu Pro Lys Glu Ala Ala Arg Gln Asn
65 70 75 80

Tyr Val Asp Leu Val Ser Ser Leu Ser Pro Ser Leu Glu Ser Ser Ser
85 90 95

Gln Val Glu Pro Gly Thr Asp Arg Lys Ser Thr Gly Phe Glu Thr Leu
100 105 110

Val Val Thr Ser Glu Asp Gly Ile Thr Lys Ile Met Phe Asn Arg Pro
115 120 125

Lys Lys Lys Asn Ala Ile Asn Thr Glu Met Tyr His Glu Ile Met Arg
130 135 140

Ala Leu Lys Ala Ala Ser Lys Asp Asp Ser Ile Ile Thr Val Leu Thr
145 150 155 160

Gly Asn Gly Asp Tyr Tyr Ser Ser Gly Asn Asp Leu Thr Asn Phe Thr
165 170 175

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Asp Ile Pro Pro Gly Gly Val Xaa Glu Lys Ala Lys Asn Asn Ala Val
            180                 185                 190

Leu Leu Lys Gly Ile Cys Gly Leu Phe Tyr Arg Ile Ser
        195                 200                 205


<210> 13
<211> 3046
<212> DNA
<213> Homo sapiens

<400> 13
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gccaacagct cccccgtggc ctccaccacc ccgtccgcct cagccaccac caaccccgcc 240
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gtgcccacat gtgtccatcc cagcggctgg tgcagggcct ccattc                3046


<210> 14
<211> 967
<212> PRT
<213> Homo sapiens

<400> 14
Met Ala Lys Gly Phe Tyr Ile Ser Lys Ser Leu Gly Ile Leu Gly Ile
  1               5                  10                  15

Leu Leu Gly Val Ala Ala Val Cys Thr Ile Ile Ala Leu Ser Val Val
             20                  25                  30

Tyr Ser Gln Glu Lys Asn Lys Asn Ala Asn Ser Ser Pro Val Ala Ser
         35                  40                  45

Thr Thr Pro Ser Ala Ser Ala Thr Thr Asn Pro Ala Ser Ala Thr Thr
     50                  55                  60

Leu Asp Gln Ser Lys Ala Trp Asn Arg Tyr Arg Leu Pro Asn Thr Leu
 65                  70                  75                  80

Lys Pro Asp Ser Tyr Gln Val Thr Leu Arg Pro Tyr Leu Thr Pro Asn
                 85                  90                  95

Asp Arg Gly Leu Tyr Val Phe Lys Gly Ser Ser Thr Val Arg Phe Thr
            100                 105                 110

Cys Lys Glu Ala Thr Asp Val Ile Ile Ile His Ser Lys Lys Leu Asn
        115                 120                 125

Tyr Thr Leu Ser Gln Gly His Arg Val Val Leu Arg Gly Val Gly Gly
    130                 135                 140

Ser Gln Pro Pro Asp Ile Asp Lys Thr Glu Leu Val Glu Pro Thr Glu
145                 150                 155                 160

Tyr Leu Val Val His Leu Lys Gly Ser Leu Val Lys Asp Ser Gln Tyr
                165                 170                 175

Glu Met Asp Ser Glu Phe Glu Gly Glu Leu Ala Asp Asp Leu Ala Gly
            180                 185                 190

Phe Tyr Arg Ser Glu Tyr Met Glu Gly Asn Val Arg Lys Val Val Ala
        195                 200                 205

Thr Thr Gln Met Gln Ala Ala Asp Ala Arg Lys Ser Phe Pro Cys Phe
    210                 215                 220

Asp Glu Pro Ala Met Lys Ala Glu Phe Asn Ile Thr Leu Ile His Pro
225                 230                 235                 240

Lys Asp Leu Thr Ala Leu Ser Asn Met Leu Pro Lys Gly Pro Ser Thr
                245                 250                 255

Pro Leu Pro Glu Asp Pro Asn Trp Asn Val Thr Glu Phe His Thr Thr
            260                 265                 270
```

```
Pro Lys Met Ser Thr Tyr Leu Leu Ala Phe Ile Val Ser Glu Phe Asp
        275                 280                 285

Tyr Val Glu Lys Gln Ala Ser Asn Gly Val Leu Ile Arg Ile Trp Ala
    290                 295                 300

Arg Pro Ser Ala Ile Ala Ala Gly His Gly Asp Tyr Ala Leu Asn Val
305                 310                 315                 320

Thr Gly Pro Ile Leu Asn Phe Phe Ala Gly His Tyr Asp Thr Pro Tyr
                325                 330                 335

Pro Leu Pro Lys Ser Asp Gln Ile Gly Leu Pro Asp Phe Asn Ala Gly
            340                 345                 350

Ala Met Glu Asn Trp Gly Leu Val Thr Tyr Arg Glu Asn Ser Leu Leu
        355                 360                 365

Phe Asp Pro Leu Ser Ser Ser Ser Ser Asn Lys Glu Arg Val Val Thr
    370                 375                 380

Val Ile Ala His Glu Leu Ala His Gln Trp Phe Gly Asn Leu Val Thr
385                 390                 395                 400

Ile Glu Trp Trp Asn Asp Leu Trp Leu Asn Glu Gly Phe Ala Ser Tyr
                405                 410                 415

Val Glu Tyr Leu Gly Ala Asp Tyr Ala Glu Pro Thr Trp Asn Leu Lys
            420                 425                 430

Asp Leu Met Val Leu Asn Asp Val Tyr Arg Val Met Ala Val Asp Ala
        435                 440                 445

Leu Ala Ser Ser His Pro Leu Ser Thr Pro Ala Ser Glu Ile Asn Thr
    450                 455                 460

Pro Ala Gln Ile Ser Glu Leu Phe Asp Ala Ile Ser Tyr Ser Lys Gly
465                 470                 475                 480

Ala Ser Val Leu Arg Met Leu Ser Ser Phe Leu Ser Glu Asp Val Phe
                485                 490                 495

Lys Gln Gly Leu Ala Ser Tyr Leu His Thr Phe Ala Tyr Gln Asn Thr
            500                 505                 510

Ile Tyr Leu Asn Leu Trp Asp His Leu Gln Glu Ala Val Asn Asn Arg
        515                 520                 525

Ser Ile Gln Leu Pro Thr Thr Glu Arg Asp Ile Met Asn Arg Trp Thr
    530                 535                 540

Leu Gln Met Gly Phe Pro Val Ile Thr Val Asp Thr Ser Thr Gly Thr
545                 550                 555                 560

Leu Ser Gln Glu His Phe Leu Leu Asp Pro Asp Ser Asn Val Thr Arg
                565                 570                 575

Pro Ser Glu Phe Asn Tyr Val Trp Ile Val Pro Ile Thr Ser Ile Arg
            580                 585                 590

Asp Gly Arg Gln Gln Gln Asp Tyr Trp Leu Met Asp Val Arg Ala Gln
        595                 600                 605
```

```
Asn Asp Leu Phe Ser Thr Ser Gly Asn Glu Trp Val Leu Leu Asn Leu
    610                 615                 620

Asn Val Thr Gly Tyr Tyr Arg Val Asn Tyr Asp Glu Glu Asn Trp Arg
625                 630                 635                 640

Lys Ile Gln Thr Gln Leu Gln Arg Asp His Ser Ala Ile Pro Val Ile
                645                 650                 655

Asn Arg Ala Gln Ile Ile Asn Asp Ala Phe Asn Leu Ala Ser Ala His
            660                 665                 670

Lys Val Pro Val Thr Leu Ala Leu Asn Asn Thr Leu Phe Leu Ile Glu
        675                 680                 685

Glu Arg Gln Tyr Met Pro Trp Glu Ala Ala Leu Ser Ser Leu Ser Tyr
    690                 695                 700

Phe Lys Leu Met Phe Asp Arg Ser Glu Val Tyr Gly Pro Met Lys Asn
705                 710                 715                 720

Tyr Leu Lys Lys Gln Val Thr Pro Leu Phe Ile His Phe Arg Asn Asn
                725                 730                 735

Thr Asn Asn Trp Arg Glu Ile Pro Glu Asn Leu Met Asp Gln Tyr Ser
            740                 745                 750

Glu Val Asn Ala Ile Ser Thr Ala Cys Ser Asn Gly Val Pro Glu Cys
        755                 760                 765

Glu Glu Met Val Ser Gly Leu Phe Lys Gln Trp Met Glu Asn Pro Asn
    770                 775                 780

Asn Asn Pro Ile His Pro Asn Leu Arg Ser Thr Val Tyr Cys Asn Ala
785                 790                 795                 800

Ile Ala Gln Gly Gly Glu Glu Glu Trp Asp Phe Ala Trp Glu Gln Phe
                805                 810                 815

Arg Asn Ala Thr Leu Val Asn Glu Ala Asp Lys Leu Arg Ala Ala Leu
            820                 825                 830

Ala Cys Ser Lys Glu Leu Trp Ile Leu Asn Arg Tyr Leu Ser Tyr Thr
        835                 840                 845

Leu Asn Pro Asp Leu Ile Arg Lys Gln Asp Ala Thr Ser Thr Ile Ile
    850                 855                 860

Ser Ile Thr Asn Asn Val Ile Gly Gln Gly Leu Val Trp Asp Phe Val
865                 870                 875                 880

Gln Ser Asn Trp Lys Lys Pro Phe Asn Asp Tyr Gly Gly Gly Ser Phe
                885                 890                 895

Ser Phe Ser Asn Leu Ile Gln Ala Val Thr Arg Arg Phe Ser Thr Glu
            900                 905                 910

Tyr Glu Leu Gln Gln Leu Glu Gln Phe Lys Lys Asp Asn Glu Glu Thr
        915                 920                 925

Gly Phe Gly Ser Gly Thr Arg Ala Leu Glu Gln Ala Leu Glu Lys Thr
```

```
    930                 935                 940

Lys Ala Asn Ile Lys Trp Val Lys Glu Asn Lys Glu Val Val Leu Gln
945                 950                 955                 960

Trp Phe Thr Glu Asn Ser Lys
                965
```

<210> 15
<211> 398
<212> DNA
<213> Homo sapiens

<400> 15
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gtctgcaaac cagtgtgccg tgccggccaa ggacagggtg gactgcggct acccccatgt 120
cacccccaag gagtgcaaca accggggctg ctgctttgac tccaggatcc ctggagtgcc 180
ttggtgtttc aagcccctga ctaggaagac agaatgcacc ttctgaggca cctccagctg 240
cccctgggat gcaggctgag caccttgcc cggctgtgat tgctgccagg cactgttcat 300
ctcagttttt ctgtcccttt gctcccggca agctttctgc tgaaagttca tatctggagc 360
ctgatgtctt aacgaataaa ggtcccatgc tccacccg   398

<210> 16
<211> 74
<212> PRT
<213> Homo sapiens

<400> 16
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Met Leu Gly Leu Val Leu Ala Leu Leu Ser Ser Ser Ser Ala Glu Glu
  1               5                  10                  15

Tyr Val Gly Leu Ser Ala Asn Gln Cys Ala Val Pro Ala Lys Asp Arg
             20                  25                  30

Val Asp Cys Gly Tyr Pro His Val Thr Pro Lys Glu Cys Asn Asn Arg
         35                  40                  45

Gly Cys Cys Phe Asp Ser Arg Ile Pro Gly Val Pro Trp Cys Phe Lys
     50                  55                  60

Pro Leu Thr Arg Lys Thr Glu Cys Thr Phe
 65                  70
```

<210> 17
<211> 1192
<212> DNA
<213> Homo sapiens

<400> 17
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ttggggccgc ccagatgagg gaacagcccg atttgcctgg ttctgattct ccaggctgtc 120
gtggttgtgg aatgcaaacg ccagcacata atggaaacag gacctgaaga cccttccagc 180
atgccagagg aaagttcccc caggcggacc ccgcagagca ttccctacca ggacctccct 240
cacctggtca atgcagacgg acagtacctc ttctgcaggt actggaaacc cacaggcaca 300
cccaaggccc tcatctttgt gtcccatgga gccggagagc acagtggccg ctatgaagag 360
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ggacagagcg aaggggagag gatggtagtg tctgacttcc acgttttcgt cagggatgtg 480
ttgcagcatg tggattccat gcagaaagac taccctgggc ttcctgtctt ccttctgggc 540
cactccatgg gaggcgccat cgccatcctg acggccgcag agaggccggg ccacttcgcc 600

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ggcatggtac tcatttcgcc tctggttctt gccaatcctg aatctgcaac aactttcaag 660
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tccagcgtgc tctctcggaa taagacagag gtcgacattt ataactcaga ccccctgatc 780
tgccgggcag ggctgaaggt gtgcttcggc atccaactgc tgaatgccgt ctcacgggtg 840
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ctatgtgaca gcaaaggggc ctacctgctc atggagttag ccaagagcca ggacaagact 960
ctcaagattt atgaaggtgc ctaccatgtt ctccacaagg agcttcctga agtcaccaac 1020
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tccccaccct gaatgcattg gccggtgccc ggctcatggt ctgggggatg caggcagggg 1140
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```

<210> 18
<211> 313
<212> PRT
<213> Homo sapiens

<400> 18

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Met Glu Thr Gly Pro Glu Asp Pro Ser Ser Met Pro Glu Glu Ser Ser
  1               5                  10                  15

Pro Arg Arg Thr Pro Gln Ser Ile Pro Tyr Gln Asp Leu Pro His Leu
             20                  25                  30

Val Asn Ala Asp Gly Gln Tyr Leu Phe Cys Arg Tyr Trp Lys Pro Thr
         35                  40                  45

Gly Thr Pro Lys Ala Leu Ile Phe Val Ser His Gly Ala Gly Glu His
     50                  55                  60

Ser Gly Arg Tyr Glu Glu Leu Ala Arg Met Leu Met Gly Leu Asp Leu
 65                  70                  75                  80

Leu Val Phe Ala His Asp His Val Gly His Gly Gln Ser Glu Gly Glu
                 85                  90                  95

Arg Met Val Val Ser Asp Phe His Val Phe Val Arg Asp Val Leu Gln
            100                 105                 110

His Val Asp Ser Met Gln Lys Asp Tyr Pro Gly Leu Pro Val Phe Leu
        115                 120                 125

Leu Gly His Ser Met Gly Gly Ala Ile Ala Ile Leu Thr Ala Ala Glu
    130                 135                 140

Arg Pro Gly His Phe Ala Gly Met Val Leu Ile Ser Pro Leu Val Leu
145                 150                 155                 160

Ala Asn Pro Glu Ser Ala Thr Thr Phe Lys Val Leu Ala Ala Lys Val
                165                 170                 175

Leu Asn Leu Val Leu Pro Asn Leu Ser Leu Gly Pro Ile Asp Ser Ser
            180                 185                 190

Val Leu Ser Arg Asn Lys Thr Glu Val Asp Ile Tyr Asn Ser Asp Pro
        195                 200                 205

Leu Ile Cys Arg Ala Gly Leu Lys Val Cys Phe Gly Ile Gln Leu Leu
    210                 215                 220

Asn Ala Val Ser Arg Val Glu Arg Ala Leu Pro Lys Leu Thr Val Pro
225                 230                 235                 240
```

```
Phe Leu Leu Leu Gln Gly Ser Ala Asp Arg Leu Cys Asp Ser Lys Gly
                245                 250                 255

Ala Tyr Leu Leu Met Glu Leu Ala Lys Ser Gln Asp Lys Thr Leu Lys
            260                 265                 270

Ile Tyr Glu Gly Ala Tyr His Val Leu His Lys Glu Leu Pro Glu Val
        275                 280                 285

Thr Asn Ser Val Phe His Glu Ile Asn Met Trp Val Ser Gln Arg Thr
    290                 295                 300

Ala Thr Ala Gly Thr Ala Ser Pro Pro
305                 310
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<210> 19
<211> 1104
<212> DNA
<213> Homo sapiens

<400> 19
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cgaggttcaa gccgagtcct ccaactaccc ctgcttggtg ccagtcaagt ggggtggaaa 180
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taacgggcac tcagtgatga tgttgctgga gaacaaggcc agcatttctg gaggaggact 360
gcctgcccca taccaggcca aacagttgca cctgcactgg tccgacttgc catataaggg 420
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agagaagggg acatcgagga atgtgaaaga ggcccaggac cctgaagacg aaattgcggt 540
gctggccttt ctggtggagg ctggaaccca ggtgaacgag ggcttccagc cactggtgga 600
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cacaccgacc tgcgatgaga aggtcgtctg gactgtgttc cgggagccca ttcagcttca 780
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<210> 20
<211> 312
<212> PRT
<213> Homo sapiens

<400> 20
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Met Arg Met Leu Leu Ala Leu Leu Ala Leu Ser Ala Ala Arg Pro Ser
  1               5                  10                  15

Ala Ser Ala Glu Ser His Trp Cys Tyr Glu Val Gln Ala Glu Ser Ser
             20                  25                  30

Asn Tyr Pro Cys Leu Val Pro Val Lys Trp Gly Gly Asn Cys Gln Lys
         35                  40                  45

Asp Arg Gln Ser Pro Ile Asn Ile Val Thr Thr Lys Ala Lys Val Asp
     50                  55                  60
```

```
Lys Lys Leu Gly Arg Phe Phe Phe Ser Gly Tyr Asp Lys Lys Gln Thr
 65                  70                  75                  80

Trp Thr Val Gln Asn Asn Gly His Ser Val Met Met Leu Leu Glu Asn
                 85                  90                  95

Lys Ala Ser Ile Ser Gly Gly Gly Leu Pro Ala Pro Tyr Gln Ala Lys
            100                 105                 110

Gln Leu His Leu His Trp Ser Asp Leu Pro Tyr Lys Gly Ser Glu His
        115                 120                 125

Ser Leu Asp Gly Glu His Phe Ala Met Glu Met His Ile Val His Glu
    130                 135                 140

Lys Glu Lys Gly Thr Ser Arg Asn Val Lys Glu Ala Gln Asp Pro Glu
145                 150                 155                 160

Asp Glu Ile Ala Val Leu Ala Phe Leu Val Glu Ala Gly Thr Gln Val
                165                 170                 175

Asn Glu Gly Phe Gln Pro Leu Val Glu Ala Leu Ser Asn Ile Pro Lys
            180                 185                 190

Pro Glu Met Ser Thr Thr Met Ala Glu Ser Ser Leu Leu Asp Leu Leu
        195                 200                 205

Pro Lys Glu Glu Lys Leu Arg His Tyr Phe Arg Tyr Leu Gly Ser Leu
    210                 215                 220

Thr Thr Pro Thr Cys Asp Glu Lys Val Val Trp Thr Val Phe Arg Glu
225                 230                 235                 240

Pro Ile Gln Leu His Arg Glu Gln Ile Leu Ala Phe Ser Gln Lys Leu
                245                 250                 255

Tyr Tyr Asp Lys Glu Gln Thr Val Ser Met Lys Asp Asn Val Arg Pro
            260                 265                 270

Leu Gln Gln Leu Gly Gln Arg Thr Val Ile Lys Ser Gly Ala Pro Gly
        275                 280                 285

Arg Pro Leu Pro Trp Ala Leu Pro Ala Leu Leu Gly Pro Met Leu Ala
    290                 295                 300

Cys Leu Leu Ala Gly Phe Leu Arg
305                 310


<210> 21
<211> 2814
<212> DNA
<213> Homo sapiens

<220>
<221> misc_feature
<222> (1)
<223> Where n is G or A or T or C

<220>
<221> misc_feature
<222> (3)
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<223> Where n is G or A or T or C

<400> 21
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gccagcccat cgagatcccg atgtgcaagg acatcggcta caacatgact cgtatgccca 180
acctgatggg ccacgagaac cagcgcgagg cagccatcca gttgcacgag ttcgcgccgc 240
tggtggagta cggctgccac ggccacctcc gcttcttcct gtgctcgctg tacgcgccga 300
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ggctcaagtg ctccccgatt atggagcagt tcaacttcaa gtggcccgac tccctggact 420
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<212> PRT
<213> Homo sapiens

<400> 22
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Ser Cys Ala Ala Ile Ser Ser Met Asp Met Glu Arg Pro Gly Asp Gly

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            20                  25                  30

Lys Cys Gln Pro Ile Glu Ile Pro Met Cys Lys Asp Ile Gly Tyr Asn
         35                  40                  45

Met Thr Arg Met Pro Asn Leu Met Gly His Glu Asn Gln Arg Glu Ala
     50                  55                  60

Ala Ile Gln Leu His Glu Phe Ala Pro Leu Val Glu Tyr Gly Cys His
 65                  70                  75                  80

Gly His Leu Arg Phe Phe Leu Cys Ser Leu Tyr Ala Pro Met Cys Thr
                 85                  90                  95

Glu Gln Val Ser Thr Pro Ile Pro Ala Cys Arg Val Met Cys Glu Gln
            100                 105                 110

Ala Arg Leu Lys Cys Ser Pro Ile Met Glu Gln Phe Asn Phe Lys Trp
        115                 120                 125

Pro Asp Ser Leu Asp Cys Arg Lys Leu Pro Asn Lys Asn Asp Pro Asn
    130                 135                 140

Tyr Leu Cys Met Glu Ala Pro Asn Asn Gly Ser Asp Glu Pro Thr Arg
145                 150                 155                 160

Gly Ser Gly Leu Phe Pro Pro Leu Phe Arg Pro Gln Arg Pro His Ser
                165                 170                 175

Ala Gln Glu His Pro Leu Lys Asp Gly Gly Pro Gly Arg Gly Gly Cys
            180                 185                 190

Asp Asn Pro Gly Lys Phe His His Val Glu Lys Ser Ala Ser Cys Ala
        195                 200                 205

Pro Leu Cys Thr Pro Gly Val Asp Val Tyr Trp Ser Arg Glu Asp Lys
    210                 215                 220

Arg Phe Ala Val Val Trp Leu Ala Ile Trp Ala Val Leu Cys Phe Phe
225                 230                 235                 240

Ser Ser Ala Phe Thr Val Leu Thr Phe Leu Ile Asp Pro Ala Arg Phe
                245                 250                 255

Arg Tyr Pro Glu Arg Pro Ile Ile Phe Leu Ser Met Cys Tyr Cys Val
            260                 265                 270

Tyr Ser Val Gly Tyr Leu Ile Arg Leu Phe Ala Gly Ala Glu Ser Ile
        275                 280                 285

Ala Cys Asp Arg Asp Ser Gly Gln Leu Tyr Val Ile Gln Glu Gly Leu
    290                 295                 300

Glu Ser Thr Gly Cys Thr Leu Val Phe Leu Val Leu Tyr Tyr Phe Gly
305                 310                 315                 320

Met Ala Ser Ser Leu Trp Trp Val Val Leu Thr Leu Thr Trp Phe Leu
                325                 330                 335

Ala Ala Gly Lys Lys Trp Gly His Glu Ala Ile Glu Ala Asn Ser Ser
            340                 345                 350
```

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Tyr Phe His Leu Ala Ala Trp Ala Ile Pro Ala Val Lys Thr Ile Leu
        355                 360                 365

Ile Leu Val Met Arg Arg Val Ala Gly Asp Glu Leu Thr Gly Val Cys
    370                 375                 380

Tyr Val Gly Ser Met Asp Val Asn Ala Leu Thr Gly Phe Val Leu Ile
385                 390                 395                 400

Pro Leu Ala Cys Tyr Leu Val Ile Gly Thr Ser Phe Ile Leu Ser Gly
                405                 410                 415

Phe Val Ala Leu Phe His Ile Arg Arg Val Met Lys Thr Gly Gly Glu
            420                 425                 430

Asn Thr Asp Lys Leu Glu Lys Leu Met Val Arg Ile Gly Leu Phe Ser
        435                 440                 445

Val Leu Tyr Thr Val Pro Ala Thr Cys Val Ile Ala Cys Tyr Phe Tyr
    450                 455                 460

Glu Arg Leu Asn Met Asp Tyr Trp Lys Ile Leu Ala Ala Gln His Lys
465                 470                 475                 480

Cys Lys Met Asn Asn Gln Thr Lys Thr Leu Asp Cys Leu Met Ala Ala
                485                 490                 495

Ser Ile Pro Ala Val Glu Ile Phe Met Val Lys Ile Phe Met Leu Leu
            500                 505                 510

Val Val Gly Ile Thr Ser Gly Met Trp Ile Trp Thr Ser Lys Thr Leu
        515                 520                 525

Gln Ser Trp Gln Gln Val Cys Ser Arg Arg Leu Lys Lys Lys Ser Arg
    530                 535                 540

Arg Lys Pro Ala Ser Val Ile Thr Ser Gly Gly Ile Tyr Lys Lys Ala
545                 550                 555                 560

Gln His Pro Gln Lys Thr His His Gly Lys Tyr Glu Ile Pro Ala Gln
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Ser Pro Thr Cys Val
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<212> DNA
<213> Homo sapiens

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<210> 24
<211> 346
<212> PRT
<213> Homo sapiens

<400> 24

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Leu Gly Val Arg Gly Ala Pro Cys Glu Ala Val Arg Ile Pro Met Cys
             20                  25                  30

Arg His Met Pro Trp Asn Ile Thr Arg Met Pro Asn His Leu His His
         35                  40                  45

Ser Thr Gln Glu Asn Ala Ile Leu Ala Ile Glu Gln Tyr Glu Glu Leu
     50                  55                  60

Val Asp Val Asn Cys Ser Ala Val Leu Arg Phe Phe Phe Cys Ala Met
 65                  70                  75                  80

Tyr Ala Pro Ile Cys Thr Leu Glu Phe Leu His Asp Pro Ile Lys Pro
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                85                  90                  95

Cys Lys Ser Val Cys Gln Arg Ala Arg Asp Asp Cys Glu Pro Leu Met
            100                 105                 110

Lys Met Tyr Asn His Ser Trp Pro Glu Ser Leu Ala Cys Asp Glu Leu
        115                 120                 125

Pro Val Tyr Asp Arg Gly Val Cys Ile Ser Pro Glu Ala Ile Val Thr
    130                 135                 140

Asp Leu Pro Glu Asp Val Lys Trp Ile Asp Ile Thr Pro Asp Met Met
145                 150                 155                 160

Val Gln Glu Arg Pro Leu Asp Val Asp Cys Lys Arg Leu Ser Pro Asp
                165                 170                 175

Arg Cys Lys Cys Lys Lys Val Lys Pro Thr Leu Ala Thr Tyr Leu Ser
            180                 185                 190

Lys Asn Tyr Ser Tyr Val Ile His Ala Lys Ile Lys Ala Val Gln Arg
        195                 200                 205

Ser Gly Cys Asn Glu Val Thr Thr Val Val Asp Val Lys Glu Ile Phe
    210                 215                 220

Lys Ser Ser Ser Pro Ile Pro Arg Thr Gln Val Pro Leu Ile Thr Asn
225                 230                 235                 240

Ser Ser Cys Gln Cys Pro His Ile Leu Pro His Gln Asp Val Leu Ile
                245                 250                 255

Met Cys Tyr Glu Trp Arg Ser Arg Met Met Leu Leu Glu Asn Cys Leu
            260                 265                 270

Val Glu Lys Trp Arg Asp Gln Leu Ser Lys Arg Ser Ile Gln Trp Glu
        275                 280                 285

Glu Arg Leu Gln Glu Gln Arg Arg Thr Val Gln Asp Lys Lys Lys Thr
    290                 295                 300

Ala Gly Arg Thr Ser Arg Ser Asn Pro Pro Lys Pro Lys Gly Lys Pro
305                 310                 315                 320

Pro Ala Pro Lys Pro Ala Ser Pro Lys Lys Asn Ile Lys Thr Arg Ser
                325                 330                 335

Ala Gln Lys Arg Thr Asn Pro Lys Arg Val
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<210> 25
<211> 3445
<212> DNA
<213> Homo sapiens

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<210> 26
<211> 755
<212> PRT
<213> Homo sapiens

<400> 26
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Val Thr Asn Pro Leu His Glu Leu Lys Ala Ala Ala Phe Pro Gln Thr
             20                  25                  30

Thr Glu Lys Ile Ser Pro Asn Trp Glu Ser Gly Ile Asn Val Asp Leu
         35                  40                  45

Ala Ile Ser Thr Arg Gln Tyr His Leu Gln Gln Leu Phe Tyr Arg Tyr
     50                  55                  60

Gly Glu Asn Asn Ser Leu Ser Val Glu Gly Phe Arg Lys Leu Leu Gln
 65                  70                  75                  80

Asn Ile Gly Ile Asp Lys Ile Lys Arg Ile His Ile His His Asp His
                 85                  90                  95

Asp His His Ser Asp His Glu His His Ser Asp His Glu Arg His Ser
            100                 105                 110

Asp His Glu His His Ser Glu His Glu His His Ser Asp His Asp His
        115                 120                 125

His Ser His His Asn His Ala Ala Ser Gly Lys Asn Lys Arg Lys Ala
    130                 135                 140

Leu Cys Pro Asp His Asp Ser Asp Ser Ser Gly Lys Asp Pro Arg Asn
145                 150                 155                 160

Ser Gln Gly Lys Gly Ala His Arg Pro Glu His Ala Ser Gly Arg Arg
                165                 170                 175

Asn Val Lys Asp Ser Val Ser Ala Ser Glu Val Thr Ser Thr Val Tyr
            180                 185                 190

Asn Thr Val Ser Glu Gly Thr His Phe Leu Glu Thr Ile Glu Thr Pro
        195                 200                 205

Arg Pro Gly Lys Leu Phe Pro Lys Asp Val Ser Ser Ser Thr Pro Pro
    210                 215                 220

Ser Val Thr Ser Lys Ser Arg Val Ser Arg Leu Ala Gly Arg Lys Thr
225                 230                 235                 240

Asn Glu Ser Val Ser Glu Pro Arg Lys Gly Phe Met Tyr Ser Arg Asn
                245                 250                 255

Thr Asn Glu Asn Pro Gln Glu Cys Phe Asn Ala Ser Lys Leu Leu Thr
            260                 265                 270

Ser His Gly Met Gly Ile Gln Val Pro Leu Asn Ala Thr Glu Phe Asn
        275                 280                 285

Tyr Leu Cys Pro Ala Ile Ile Asn Gln Ile Asp Ala Arg Ser Cys Leu
    290                 295                 300

Ile His Thr Ser Glu Lys Lys Ala Glu Ile Pro Pro Lys Thr Tyr Ser
305                 310                 315                 320

Leu Gln Ile Ala Trp Val Gly Gly Phe Ile Ala Ile Ser Ile Ile Ser
                325                 330                 335
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Phe Leu Ser Leu Leu Gly Val Ile Leu Val Pro Leu Met Asn Arg Val
            340                 345                 350

Phe Phe Lys Phe Leu Leu Ser Phe Leu Val Ala Leu Ala Val Gly Thr
        355                 360                 365

Leu Ser Gly Asp Ala Phe Leu His Leu Leu Pro His Ser His Ala Ser
    370                 375                 380

His His His Ser His Ser His Glu Glu Pro Ala Met Glu Met Lys Arg
385                 390                 395                 400

Gly Pro Leu Phe Ser His Leu Ser Ser Gln Asn Ile Glu Glu Ser Ala
                405                 410                 415

Tyr Phe Asp Ser Thr Trp Lys Gly Leu Thr Ala Leu Gly Gly Leu Tyr
            420                 425                 430

Phe Met Phe Leu Val Glu His Val Leu Thr Leu Ile Lys Gln Phe Lys
        435                 440                 445

Asp Lys Lys Lys Lys Asn Gln Lys Lys Pro Glu Asn Asp Asp Asp Val
    450                 455                 460

Glu Ile Lys Lys Gln Leu Ser Lys Tyr Glu Ser Gln Leu Ser Thr Asn
465                 470                 475                 480

Glu Glu Lys Val Asp Thr Asp Asp Arg Thr Glu Gly Tyr Leu Arg Ala
                485                 490                 495

Asp Ser Gln Glu Pro Ser His Phe Asp Ser Gln Gln Pro Ala Val Leu
            500                 505                 510

Glu Glu Glu Glu Val Met Ile Ala His Ala His Pro Gln Glu Val Tyr
        515                 520                 525

Asn Glu Tyr Val Pro Arg Gly Cys Lys Asn Lys Cys His Ser His Phe
    530                 535                 540

His Asp Thr Leu Gly Gln Ser Asp Asp Leu Ile His His His His Asp
545                 550                 555                 560

Tyr His His Ile Leu His His His His His Gln Asn His His Pro His
                565                 570                 575

Ser His Ser Gln Arg Tyr Ser Arg Glu Glu Leu Lys Asp Ala Gly Val
            580                 585                 590

Ala Thr Leu Ala Trp Met Val Ile Met Gly Asp Gly Leu His Asn Phe
        595                 600                 605

Ser Asp Gly Leu Ala Ile Gly Ala Ala Phe Thr Glu Gly Leu Ser Ser
    610                 615                 620

Gly Leu Ser Thr Ser Val Ala Val Phe Cys His Glu Leu Pro His Glu
625                 630                 635                 640

Leu Gly Asp Phe Ala Val Leu Leu Lys Ala Gly Met Thr Val Lys Gln
                645                 650                 655

Ala Val Leu Tyr Asn Ala Leu Ser Ala Met Leu Ala Tyr Leu Gly Met
            660                 665                 670
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Ala Thr Gly Ile Phe Ile Gly His Tyr Ala Glu Asn Val Ser Met Trp
        675                 680                 685

Ile Phe Ala Leu Thr Ala Gly Leu Phe Met Tyr Val Ala Leu Val Asp
    690                 695                 700

Met Val Pro Glu Met Leu His Asn Asp Ala Ser Asp His Gly Cys Ser
705                 710                 715                 720

Arg Trp Gly Tyr Phe Phe Leu Gln Asn Ala Gly Met Leu Leu Gly Phe
                725                 730                 735

Gly Ile Met Leu Leu Ile Ser Ile Phe Glu His Lys Ile Val Phe Arg
            740                 745                 750

Ile Asn Phe
        755
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<210> 27
<211> 3851
<212> DNA
<213> Homo sapiens

<400> 27

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<210> 28
<211> 1219
<212> PRT
<213> Homo sapiens

<400> 28

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Leu Cys Glu Ala Gly Arg Asp Val Ala Ala Leu Trp Gly Ile Glu Thr
             20                  25                  30

Arg Gly Arg Cys Glu Asp Ser Ala Ala Ala Arg Pro Phe Pro Ile Leu
         35                  40                  45

Ala Met Pro Gly Arg Asn Lys Ala Lys Ser Thr Cys Ser Cys Pro Asp
     50                  55                  60

Leu Gln Pro Asn Gly Gln Asp Leu Gly Glu Asn Ser Arg Val Ala Arg
 65                  70                  75                  80

Leu Gly Ala Asp Glu Ser Glu Glu Glu Gly Arg Arg Gly Ser Leu Ser
                 85                  90                  95

Asn Ala Gly Asp Pro Glu Ile Val Lys Ser Pro Ser Asp Pro Lys Gln
            100                 105                 110

Tyr Arg Tyr Ile Lys Leu Gln Asn Gly Leu Gln Ala Leu Leu Ile Ser
        115                 120                 125

Asp Leu Ser Asn Met Glu Gly Lys Thr Gly Asn Thr Thr Asp Asp Glu
```

```
    130                 135                 140

Glu Glu Glu Glu Val Glu Glu Glu Glu Asp Asp Asp Glu Asp Ser
145                 150                 155                 160

Gly Ala Glu Ile Glu Asp Asp Asp Glu Glu Gly Phe Asp Asp Glu Asp
                165                 170                 175

Glu Phe Asp Asp Glu His Asp Asp Asp Leu Asp Thr Glu Asp Asn Glu
            180                 185                 190

Leu Glu Glu Leu Glu Glu Arg Ala Glu Ala Arg Lys Lys Thr Thr Glu
        195                 200                 205

Lys Gln Gln Leu Gln Ser Leu Phe Leu Leu Trp Ser Lys Leu Thr Asp
    210                 215                 220

Arg Leu Trp Phe Lys Ser Thr Tyr Ser Lys Met Ser Ser Thr Leu Leu
225                 230                 235                 240

Val Glu Thr Arg Asn Leu Tyr Gly Val Val Gly Ala Glu Ser Arg Ser
                245                 250                 255

Ala Pro Val Gln His Leu Ala Gly Trp Gln Ala Glu Glu Gln Gln Gly
            260                 265                 270

Glu Thr Asp Thr Val Leu Ser Ala Ala Ala Leu Cys Val Gly Val Gly
        275                 280                 285

Ser Phe Ala Asp Pro Asp Asp Leu Pro Gly Leu Ala His Phe Leu Glu
    290                 295                 300

His Met Val Phe Met Gly Ser Leu Lys Tyr Pro Asp Glu Asn Gly Phe
305                 310                 315                 320

Asp Ala Phe Leu Lys Lys His Gly Gly Ser Asp Asn Ala Ser Thr Asp
                325                 330                 335

Cys Glu Arg Thr Val Phe Gln Phe Asp Val Gln Arg Lys Tyr Phe Lys
            340                 345                 350

Glu Ala Leu Asp Arg Trp Ala Gln Phe Phe Ile His Pro Leu Met Ile
        355                 360                 365

Arg Asp Ala Ile Asp Arg Glu Val Glu Ala Val Asp Ser Glu Tyr Gln
    370                 375                 380

Leu Ala Arg Pro Ser Asp Ala Asn Arg Lys Glu Met Leu Phe Gly Ser
385                 390                 395                 400

Leu Ala Arg Pro Gly His Pro Met Gly Lys Phe Phe Trp Gly Asn Ala
                405                 410                 415

Glu Thr Leu Lys His Glu Pro Arg Lys Asn Asn Ile Asp Thr His Ala
            420                 425                 430

Arg Leu Arg Glu Phe Trp Met Arg Tyr Tyr Ser Ser His Tyr Met Thr
        435                 440                 445

Leu Val Val Gln Ser Lys Glu Thr Leu Asp Thr Leu Glu Lys Trp Val
    450                 455                 460
```

```
Thr Glu Ile Phe Ser Gln Ile Pro Asn Asn Gly Leu Pro Arg Pro Asn
465                 470                 475                 480

Phe Gly His Leu Thr Asp Pro Phe Asp Thr Pro Ala Phe Asn Lys Leu
                485                 490                 495

Tyr Arg Val Val Pro Ile Arg Lys Ile His Ala Leu Thr Ile Thr Trp
            500                 505                 510

Ala Leu Pro Pro Gln Gln Gln His Tyr Arg Val Lys Pro Leu His Tyr
        515                 520                 525

Ile Ser Trp Leu Val Gly His Glu Gly Lys Gly Ser Ile Leu Ser Phe
    530                 535                 540

Leu Arg Lys Lys Cys Trp Ala Leu Ala Leu Phe Gly Gly Asn Gly Glu
545                 550                 555                 560

Thr Gly Phe Glu Gln Asn Ser Thr Tyr Ser Val Phe Ser Ile Ser Ile
                565                 570                 575

Thr Leu Thr Asp Glu Gly Tyr Glu His Phe Tyr Glu Val Ala Tyr Thr
            580                 585                 590

Val Phe Leu Tyr Leu Lys Met Leu Gln Lys Leu Gly Pro Glu Lys Arg
        595                 600                 605

Ile Phe Glu Glu Ile Arg Lys Ile Glu Asp Asn Glu Phe His Tyr Gln
    610                 615                 620

Glu Gln Thr Asp Pro Val Glu Tyr Val Glu Asn Met Cys Glu Asn Met
625                 630                 635                 640

Gln Leu Tyr Pro Leu Gln Asp Ile Leu Thr Gly Asp Gln Leu Leu Phe
                645                 650                 655

Glu Tyr Lys Pro Glu Val Ile Gly Glu Ala Leu Asn Gln Leu Val Pro
            660                 665                 670

Gln Lys Ala Asn Leu Val Leu Leu Ser Gly Ala Asn Glu Gly Lys Cys
        675                 680                 685

Asp Leu Lys Glu Lys Trp Phe Gly Thr Gln Tyr Ser Ile Glu Asp Ile
    690                 695                 700

Glu Asn Ser Trp Ala Glu Leu Trp Asn Ser Asn Phe Glu Leu Asn Pro
705                 710                 715                 720

Asp Leu His Leu Pro Ala Glu Asn Lys Tyr Ile Ala Thr Asp Phe Thr
                725                 730                 735

Leu Lys Ala Phe Asp Cys Pro Glu Thr Glu Tyr Pro Val Lys Ile Val
            740                 745                 750

Asn Thr Pro Gln Gly Cys Leu Trp Tyr Lys Lys Asp Asn Lys Phe Lys
        755                 760                 765

Ile Pro Lys Ala Tyr Ile Arg Phe His Leu Ile Ser Pro Leu Ile Gln
    770                 775                 780

Lys Ser Ala Ala Asn Val Val Leu Phe Asp Ile Phe Val Asn Ile Leu
785                 790                 795                 800
```

```
Thr His Asn Leu Ala Glu Pro Ala Tyr Glu Ala Asp Val Ala Gln Leu
                805                 810                 815

Glu Tyr Lys Leu Ala Ala Gly Glu His Gly Leu Ile Ile Arg Val Lys
            820                 825                 830

Gly Phe Asn His Lys Leu Pro Leu Leu Phe Gln Leu Ile Ile Asp Tyr
        835                 840                 845

Leu Ala Glu Phe Asn Ser Thr Pro Ala Val Phe Thr Met Ile Thr Glu
    850                 855                 860

Gln Leu Lys Lys Thr Tyr Phe Asn Ile Leu Ile Lys Pro Glu Thr Leu
865                 870                 875                 880

Ala Lys Asp Val Arg Leu Leu Ile Leu Glu Tyr Ala Arg Trp Ser Met
                885                 890                 895

Ile Asp Lys Tyr Gln Ala Leu Met Asp Gly Leu Ser Leu Glu Ser Leu
            900                 905                 910

Leu Ser Phe Val Lys Glu Phe Lys Ser Gln Leu Phe Val Glu Gly Leu
        915                 920                 925

Val Gln Gly Asn Val Thr Ser Thr Glu Ser Met Asp Phe Leu Lys Tyr
    930                 935                 940

Val Val Asp Lys Leu Asn Phe Lys Pro Leu Glu Gln Glu Met Pro Val
945                 950                 955                 960

Gln Phe Gln Val Val Glu Leu Pro Ser Gly His His Leu Cys Lys Val
                965                 970                 975

Lys Ala Leu Asn Lys Gly Asp Ala Asn Ser Glu Val Thr Val Tyr Tyr
            980                 985                 990

Gln Ser Gly Thr Arg Ser Leu Arg Glu Tyr Thr Leu Met Glu Leu Leu
        995                1000                1005

Val Met His Met Glu Glu Pro Cys Phe Asp Phe Leu Arg Thr Lys Gln
   1010                1015                1020

Thr Leu Gly Tyr His Val Tyr Pro Thr Cys Arg Asn Thr Ser Gly Ile
1025                1030                1035                1040

Leu Gly Phe Ser Val Thr Val Gly Thr Gln Ala Thr Lys Tyr Asn Ser
               1045                1050                1055

Glu Val Val Asp Lys Lys Ile Glu Glu Phe Leu Ser Ser Phe Glu Glu
           1060                1065                1070

Lys Ile Glu Asn Leu Thr Glu Glu Ala Phe Asn Thr Gln Val Thr Ala
       1075                1080                1085

Leu Ile Lys Leu Lys Glu Cys Glu Asp Thr His Leu Gly Glu Glu Val
   1090                1095                1100

Asp Arg Asn Trp Asn Glu Val Val Thr Gln Gln Tyr Leu Phe Asp Arg
1105                1110                1115                1120

Leu Ala His Glu Ile Glu Ala Leu Lys Ser Phe Ser Lys Ser Asp Leu
```

```
              1125                1130                1135

Val Asn Trp Phe Lys Ala His Arg Gly Pro Gly Ser Lys Met Leu Ser
           1140                1145                1150

Val His Val Val Gly Tyr Gly Lys Tyr Glu Leu Glu Glu Asp Gly Ser
       1155                1160                1165

Pro Ser Ser Glu Asp Ser Asn Ser Ser Cys Glu Val Met Gln Leu Thr
   1170                1175                1180

Tyr Leu Pro Thr Ser Pro Leu Leu Ala Asp Cys Ile Ile Pro Ile Thr
1185                1190                1195                1200

Asp Ile Arg Ala Phe Thr Thr Thr Leu Asn Leu Leu Pro Tyr His Lys
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Ile Val Lys
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<210> 29
<211> 2038
<212> DNA
<213> Homo sapiens

<400> 29

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<212> PRT
<213> Homo sapiens

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20 25 30

Gly Gly Asp Val Ala Ser Met Tyr Thr Pro Asn Ala Gln Tyr Cys Gln
35 40 45

Met Arg Cys Thr Phe His Pro Arg Cys Leu Leu Phe Ser Phe Leu Pro
50 55 60

Ala Ser Ser Ile Asn Asp Met Glu Lys Arg Phe Gly Cys Phe Leu Lys
65 70 75 80

Asp Ser Val Thr Gly Thr Leu Pro Lys Val His Arg Thr Gly Ala Val
85 90 95

Ser Gly His Ser Leu Lys Gln Cys Gly His Gln Ile Ser Ala Cys His
100 105 110

Arg Asp Ile Tyr Lys Gly Val Asp Met Arg Gly Val Asn Phe Asn Val
115 120 125

Ser Lys Val Ser Ser Val Glu Glu Cys Gln Lys Arg Cys Thr Asn Asn
130 135 140

Ile Arg Cys Gln Phe Phe Ser Tyr Ala Thr Gln Thr Phe His Lys Ala
145 150 155 160

Glu Tyr Arg Asn Asn Cys Leu Leu Lys Tyr Ser Pro Gly Gly Thr Pro
165 170 175

Thr Ala Ile Lys Val Leu Ser Asn Val Glu Ser Gly Phe Ser Leu Lys
180 185 190

Pro Cys Ala Leu Ser Glu Ile Gly Cys His Met Asn Ile Phe Gln His
195 200 205

Leu Ala Phe Ser Asp Val Asp Val Ala Arg Phe Leu Thr Pro Asp Ala
210 215 220

Phe Val Cys Arg Thr Ile Cys Thr Tyr His Pro Asn Cys Leu Phe Phe
225 230 235 240

Thr Phe Tyr Thr Asn Val Trp Lys Ile Glu Ser Gln Arg Asn Val Cys
245 250 255

Leu Leu Lys Thr Ser Glu Ser Gly Thr Pro Ser Ser Ser Thr Pro Gln
260 265 270

Glu Asn Thr Ile Ser Gly Tyr Ser Leu Leu Thr Cys Lys Arg Thr Leu
275 280 285

Pro Glu Pro Cys His Ser Lys Ile Tyr Pro Gly Val Asp Phe Gly Gly

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    290                 295                 300

Glu Glu Leu Asn Val Thr Phe Val Lys Gly Val Asn Val Cys Gln Glu
305                 310                 315                 320

Thr Cys Thr Lys Met Ile Arg Cys Gln Phe Phe Thr Tyr Ser Leu Leu
                325                 330                 335

Pro Glu Asp Cys Lys Glu Glu Lys Cys Lys Cys Phe Leu Arg Leu Ser
            340                 345                 350

Met Asp Gly Ser Pro Thr Arg Ile Ala Tyr Gly Thr Gln Gly Ser Ser
        355                 360                 365

Gly Tyr Ser Leu Arg Leu Cys Asn Thr Gly Asp Asn Ala Val Cys Thr
    370                 375                 380

Thr Lys Thr Ser Thr Arg Ile Val Gly Gly Thr Asn Ser Ser Trp Gly
385                 390                 395                 400

Glu Trp Pro Trp Gln Val Ser Leu Gln Val Lys Leu Thr Ala Gln Arg
                405                 410                 415

His Leu Cys Gly Gly Ser Leu Ile Gly His Gln Trp Val Leu Thr Ala
            420                 425                 430

Ala His Cys Phe Asp Gly Leu Pro Leu Gln Asp Val Trp Arg Ile Tyr
        435                 440                 445

Ser Gly Ile Leu Asn Leu Ser Asp Ile Thr Lys Asp Thr Pro Phe Ser
    450                 455                 460

Gln Ile Lys Glu Ile Ile Ile His Gln Asn Tyr Lys Val Ser Glu Gly
465                 470                 475                 480

Asn His Asp Ile Ala Leu Ile Lys Leu Gln Ala Pro Leu Asn Tyr Thr
                485                 490                 495

Glu Phe Gln Lys Pro Ile Cys Leu Pro Ser Lys Gly Asp Thr Ser Thr
            500                 505                 510

Ile Tyr Thr Asn Cys Trp Val Thr Gly Trp Gly Phe Ser Lys Glu Lys
        515                 520                 525

Gly Glu Ile Gln Asn Ile Leu Gln Lys Val Asn Ile Pro Leu Val Thr
    530                 535                 540

Asn Glu Glu Cys Gln Lys Arg Tyr Gln Asp Tyr Lys Ile Thr Gln Arg
545                 550                 555                 560

Met Val Cys Ala Gly Tyr Lys Glu Gly Gly Lys Asp Ala Cys Lys Gly
                565                 570                 575

Asp Ser Gly Gly Pro Leu Val Cys Lys His Asn Gly Met Trp Arg Leu
            580                 585                 590

Val Gly Ile Thr Ser Trp Gly Glu Gly Cys Ala Arg Arg Glu Gln Pro
        595                 600                 605

Gly Val Tyr Thr Lys Val Ala Glu Tyr Met Asp Trp Ile Leu Glu Lys
    610                 615                 620
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Thr Gln Ser Ser Asp Gly Lys Ala Gln Met Gln Ser Pro Ala
625                 630                 635
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<210> 31
<211> 1094
<212> DNA
<213> Homo sapiens

<400> 31
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<210> 32
<211> 312
<212> PRT
<213> Homo sapiens

<400> 32
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Pro Gln Tyr Leu Val Glu Lys Ile Ile Arg Thr Arg Ile Tyr Glu Ser
             20                  25                  30

Lys Tyr Trp Lys Glu Glu Cys Phe Gly Leu Thr Ala Glu Leu Val Val
         35                  40                  45

Asp Lys Ala Met Glu Leu Arg Phe Val Gly Gly Val Tyr Gly Gly Asn
     50                  55                  60

Ile Lys Pro Thr Pro Phe Leu Cys Leu Thr Leu Lys Met Leu Gln Ile
 65                  70                  75                  80

Gln Pro Glu Lys Asp Ile Ile Val Glu Phe Ile Lys Asn Glu Asp Phe
                 85                  90                  95

Lys Tyr Val Arg Met Leu Gly Ala Leu Tyr Met Arg Leu Thr Gly Thr
            100                 105                 110

Ala Ile Asp Cys Tyr Lys Tyr Leu Glu Pro Leu Tyr Asn Asp Tyr Arg
        115                 120                 125

Lys Ile Lys Ser Gln Asn Arg Asn Gly Glu Phe Glu Leu Met His Val
```

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    130                 135                 140

Asp Glu Phe Ile Asp Glu Leu Leu Gln Ser Glu Arg Val Cys Asp Ile
145                 150                 155                 160

Ile Leu Pro Arg Leu Gln Lys Arg Tyr Val Leu Glu Glu Ala Glu Gln
                165                 170                 175

Leu Glu Pro Arg Val Ser Ala Leu Glu Glu Asp Met Asp Asp Val Glu
            180                 185                 190

Ser Ser Glu Glu Glu Glu Glu Glu Asp Glu Lys Leu Glu Arg Val Pro
        195                 200                 205

Ser Pro Asp His Arg Arg Arg Ser Tyr Arg Asp Leu Asp Lys Pro Arg
    210                 215                 220

Arg Ser Pro Thr Leu Arg Tyr Arg Arg Ser Arg Ser Arg Ser Pro Arg
225                 230                 235                 240

Arg Arg Ser Arg Ser Pro Lys Arg Arg Ser Pro Ser Pro Arg Arg Glu
                245                 250                 255

Arg His Arg Ser Lys Ser Pro Arg Arg His Arg Ser Arg Ser Arg Asp
            260                 265                 270

Arg Arg His Arg Ser Arg Ser Lys Ser Pro Gly His His Arg Ser His
        275                 280                 285

Arg His Arg Ser His Ser Lys Ser Pro Glu Arg Ser Lys Lys Ser His
    290                 295                 300

Lys Lys Ser Arg Arg Gly Asn Glu
305                 310
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<210> 33
<211> 3168
<212> DNA
<213> Homo sapiens

<400> 33

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tgttagtagc aaacattctg tcattagttg gagctctctt gatggggttt tcaaaattgg 480
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ttggcacttt tcatcagctg gccatcgtca cgggcattct tattagtcag attattggtc 660
ttgaatttat cttgggcaat tatgatctgt ggcacatcct gcttggcctg tctggtgtgc 720
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```

<210> 34
<211> 524
<212> PRT
<213> Homo sapiens

<400> 34

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Met Thr Glu Asp Lys Val Thr Gly Thr Leu Val Phe Thr Val Ile Thr
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Ala Val Leu Gly Ser Phe Gln Phe Gly Tyr Asp Ile Gly Val Ile Asn
             20                  25                  30

Ala Pro Gln Gln Val Ile Ile Ser His Tyr Arg His Val Leu Gly Val
         35                  40                  45

Pro Leu Asp Asp Arg Lys Ala Ile Asn Asn Tyr Val Ile Asn Ser Thr
     50                  55                  60

Asp Glu Leu Pro Thr Ile Ser Tyr Ser Met Asn Pro Lys Pro Thr Pro
 65                  70                  75                  80

Trp Ala Glu Glu Glu Thr Val Ala Ala Ala Gln Leu Ile Thr Met Leu
                 85                  90                  95

Trp Ser Leu Ser Val Ser Ser Phe Ala Val Gly Gly Met Thr Ala Ser
            100                 105                 110
```

```
Phe Phe Gly Gly Trp Leu Gly Asp Thr Leu Gly Arg Ile Lys Ala Met
        115                 120                 125

Leu Val Ala Asn Ile Leu Ser Leu Val Gly Ala Leu Leu Met Gly Phe
    130                 135                 140

Ser Lys Leu Gly Pro Ser His Ile Leu Ile Ile Ala Gly Arg Ser Ile
145                 150                 155                 160

Ser Gly Leu Tyr Cys Gly Leu Ile Ser Gly Leu Val Pro Met Tyr Ile
                165                 170                 175

Gly Glu Ile Ala Pro Thr Ala Leu Arg Gly Ala Leu Gly Thr Phe His
            180                 185                 190

Gln Leu Ala Ile Val Thr Gly Ile Leu Ile Ser Gln Ile Ile Gly Leu
        195                 200                 205

Glu Phe Ile Leu Gly Asn Tyr Asp Leu Trp His Ile Leu Leu Gly Leu
    210                 215                 220

Ser Gly Val Arg Ala Ile Leu Gln Ser Leu Leu Leu Phe Phe Cys Pro
225                 230                 235                 240

Glu Ser Pro Arg Tyr Leu Tyr Ile Lys Leu Asp Glu Glu Val Lys Ala
                245                 250                 255

Lys Gln Ser Leu Lys Arg Leu Arg Gly Tyr Asp Asp Val Thr Lys Asp
            260                 265                 270

Ile Asn Glu Met Arg Lys Glu Arg Glu Glu Ala Ser Ser Glu Gln Lys
        275                 280                 285

Val Ser Ile Ile Gln Leu Phe Thr Asn Ser Ser Tyr Arg Gln Pro Ile
    290                 295                 300

Leu Val Ala Leu Met Leu His Val Ala Gln Gln Phe Ser Gly Ile Asn
305                 310                 315                 320

Gly Ile Phe Tyr Tyr Ser Thr Ser Ile Phe Gln Thr Ala Gly Ile Ser
                325                 330                 335

Lys Pro Val Tyr Ala Thr Ile Gly Val Gly Ala Val Asn Met Val Phe
            340                 345                 350

Thr Ala Val Ser Val Phe Leu Val Glu Lys Ala Gly Arg Arg Ser Leu
        355                 360                 365

Phe Leu Ile Gly Met Ser Gly Met Phe Val Cys Ala Ile Phe Met Ser
    370                 375                 380

Val Gly Leu Val Leu Leu Asn Lys Phe Ser Trp Met Ser Tyr Val Ser
385                 390                 395                 400

Met Ile Ala Ile Phe Leu Phe Val Ser Phe Phe Glu Ile Gly Pro Gly
                405                 410                 415

Pro Ile Pro Trp Phe Met Val Ala Glu Phe Phe Ser Gln Gly Pro Arg
            420                 425                 430

Pro Ala Ala Leu Ala Ile Ala Ala Phe Ser Asn Trp Thr Cys Asn Phe
        435                 440                 445
```

```
Ile Val Ala Leu Cys Phe Gln Tyr Ile Ala Asp Phe Cys Gly Pro Tyr
    450                 455                 460

Val Phe Phe Leu Phe Ala Gly Val Leu Leu Ala Phe Thr Leu Phe Thr
465                 470                 475                 480

Phe Phe Lys Val Pro Glu Thr Lys Gly Lys Ser Phe Glu Glu Ile Ala
                485                 490                 495

Ala Glu Phe Gln Lys Lys Ser Gly Ser Ala His Arg Pro Lys Ala Ala
            500                 505                 510

Val Glu Met Lys Phe Leu Gly Ala Thr Glu Thr Val
        515                 520
```

<210> 35
<211> 2184
<212> DNA
<213> Homo sapiens

<400> 35

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<210> 36
<211> 591
<212> PRT
<213> Homo sapiens

<400> 36
Met Ala Val Ala Pro Leu Arg Gly Ala Leu Leu Leu Trp Gln Leu Leu
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Ala Ala Gly Gly Ala Ala Leu Glu Ile Gly Arg Phe Asp Pro Glu Arg
20 25 30

Gly Arg Gly Ala Ala Pro Cys Gln Ala Val Glu Ile Pro Met Cys Arg
35 40 45

Gly Ile Gly Tyr Asn Leu Thr Arg Met Pro Asn Leu Leu Gly His Thr
50 55 60

Ser Gln Gly Glu Ala Ala Ala Glu Leu Ala Glu Phe Ala Pro Leu Val
65 70 75 80

Gln Tyr Gly Cys His Ser His Leu Arg Phe Phe Leu Cys Ser Leu Tyr
85 90 95

Ala Pro Met Cys Thr Asp Gln Val Ser Thr Pro Ile Pro Ala Cys Arg
100 105 110

Pro Met Cys Glu Gln Ala Arg Leu Arg Cys Ala Pro Ile Met Glu Gln
115 120 125

Phe Asn Phe Gly Trp Pro Asp Ser Leu Asp Cys Ala Arg Leu Pro Thr
130 135 140

Arg Asn Asp Pro His Ala Leu Cys Met Glu Ala Pro Glu Asn Ala Thr
145 150 155 160

Ala Gly Pro Ala Glu Pro His Lys Gly Leu Gly Met Leu Pro Val Ala
165 170 175

Pro Arg Pro Ala Arg Pro Pro Gly Asp Leu Gly Pro Gly Ala Gly Gly
180 185 190

Ser Gly Thr Cys Glu Asn Pro Glu Lys Phe Gln Tyr Val Glu Lys Ser
195 200 205

Arg Ser Cys Ala Pro Arg Cys Gly Pro Gly Val Glu Val Phe Trp Ser
210 215 220

Arg Arg Asp Lys Asp Phe Ala Leu Val Trp Met Ala Val Trp Ser Ala
225 230 235 240

Leu Cys Phe Phe Ser Thr Ala Phe Thr Val Leu Thr Phe Leu Leu Glu
245 250 255

Pro His Arg Phe Gln Tyr Pro Glu Arg Pro Ile Ile Phe Leu Ser Met
260 265 270

Cys Tyr Asn Val Tyr Ser Leu Ala Phe Leu Ile Arg Ala Val Ala Gly
275 280 285

Ala Gln Ser Val Ala Cys Asp Gln Glu Ala Gly Ala Leu Tyr Val Ile
290 295 300

```
Gln Glu Gly Leu Glu Asn Thr Gly Cys Thr Leu Val Phe Leu Leu Leu
305                 310                 315                 320

Tyr Tyr Phe Gly Met Ala Ser Ser Leu Trp Trp Val Val Leu Thr Leu
                325                 330                 335

Thr Trp Phe Leu Ala Ala Gly Lys Lys Trp Gly His Glu Ala Ile Glu
            340                 345                 350

Ala His Gly Ser Tyr Phe His Met Ala Ala Trp Gly Leu Pro Ala Leu
        355                 360                 365

Lys Thr Ile Val Ile Leu Thr Leu Arg Lys Val Ala Gly Asp Glu Leu
    370                 375                 380

Thr Gly Leu Cys Tyr Val Ala Ser Thr Asp Ala Ala Ala Leu Thr Gly
385                 390                 395                 400

Phe Val Leu Val Pro Leu Ser Gly Tyr Leu Val Leu Gly Ser Ser Phe
                405                 410                 415

Leu Leu Thr Gly Phe Val Ala Leu Phe His Ile Arg Lys Ile Met Lys
            420                 425                 430

Thr Gly Gly Thr Asn Thr Glu Lys Leu Glu Lys Leu Met Val Lys Ile
        435                 440                 445

Gly Val Phe Ser Ile Leu Tyr Thr Val Pro Ala Thr Cys Val Ile Val
    450                 455                 460

Cys Tyr Val Tyr Glu Arg Leu Asn Met Asp Phe Trp Arg Leu Arg Ala
465                 470                 475                 480

Thr Glu Gln Pro Cys Ala Ala Ala Ala Gly Pro Gly Gly Arg Arg Asp
                485                 490                 495

Cys Ser Leu Pro Gly Gly Ser Val Pro Thr Val Ala Val Phe Met Leu
            500                 505                 510

Lys Ile Phe Met Ser Leu Val Val Gly Ile Thr Ser Gly Val Trp Val
        515                 520                 525

Trp Ser Ser Lys Thr Phe Gln Thr Trp Gln Ser Leu Cys Tyr Arg Lys
    530                 535                 540

Ile Ala Ala Gly Arg Ala Arg Ala Lys Ala Cys Arg Ala Pro Gly Ser
545                 550                 555                 560

Tyr Gly Arg Gly Thr His Cys His Tyr Lys Ala Pro Thr Val Val Leu
                565                 570                 575

His Met Thr Lys Thr Asp Pro Ser Leu Glu Asn Pro Thr His Leu
            580                 585                 590
```

<210> 37
<211> 2523
<212> DNA
<213> Homo sapiens

<400> 37

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gag 2523

<210> 38
<211> 837
<212> PRT
<213> Homo sapiens

<400> 38
Gly Gly Gln Pro Ser Ser Thr Asp Ala Pro Lys Ala Trp Asn Tyr Glu
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Leu Pro Ala Thr Asn Tyr Glu Thr Gln Asp Ser His Lys Ala Gly Pro
20 25 30

Ile Gly Ile Leu Phe Glu Leu Val His Ile Phe Leu Tyr Val Val Gln
35 40 45

Pro Arg Asp Phe Pro Glu Asp Thr Leu Arg Lys Phe Leu Gln Lys Ala
50 55 60

```
Tyr Glu Ser Lys Ile Asp Tyr Asp Lys Ile Val Tyr Tyr Glu Ala Gly
 65                  70                  75                  80

Ile Ile Leu Cys Cys Val Leu Gly Leu Leu Phe Ile Ile Leu Met Pro
                 85                  90                  95

Leu Val Gly Tyr Phe Phe Cys Met Cys Arg Cys Cys Asn Lys Cys Gly
            100                 105                 110

Gly Glu Met His Gln Arg Gln Lys Glu Asn Gly Pro Phe Leu Arg Lys
        115                 120                 125

Cys Phe Ala Ile Ser Leu Leu Val Ile Cys Ile Ile Ile Ser Ile Gly
    130                 135                 140

Ile Phe Tyr Gly Phe Val Ala Asn His Gln Val Arg Thr Arg Ile Lys
145                 150                 155                 160

Arg Ser Arg Lys Leu Ala Asp Ser Asn Phe Lys Asp Leu Arg Thr Leu
                165                 170                 175

Leu Asn Glu Thr Pro Glu Gln Ile Lys Tyr Ile Leu Ala Gln Tyr Asn
            180                 185                 190

Thr Thr Lys Asp Lys Ala Phe Thr Asp Leu Asn Ser Ile Asn Ser Val
        195                 200                 205

Leu Gly Gly Gly Ile Leu Asp Arg Leu Arg Pro Asn Ile Ile Pro Val
    210                 215                 220

Leu Asp Glu Ile Lys Ser Met Ala Thr Ala Ile Lys Glu Thr Lys Glu
225                 230                 235                 240

Ala Leu Glu Asn Met Asn Ser Thr Leu Lys Ser Leu His Gln Gln Ser
                245                 250                 255

Thr Gln Leu Ser Ser Ser Leu Thr Ser Val Lys Thr Ser Leu Arg Ser
            260                 265                 270

Ser Leu Asn Asp Pro Leu Cys Leu Val His Pro Ser Ser Glu Thr Cys
        275                 280                 285

Asn Ser Ile Arg Leu Ser Leu Ser Gln Leu Asn Ser Asn Pro Glu Leu
    290                 295                 300

Arg Gln Leu Pro Pro Val Asp Ala Glu Leu Asp Asn Val Asn Asn Val
305                 310                 315                 320

Leu Arg Thr Asp Leu Asp Gly Leu Val Gln Gln Gly Tyr Gln Ser Leu
                325                 330                 335

Asn Asp Ile Pro Asp Arg Val Gln Arg Gln Thr Thr Thr Val Val Ala
            340                 345                 350

Gly Ile Lys Arg Val Leu Asn Ser Ile Gly Ser Asp Ile Asp Asn Val
        355                 360                 365

Thr Gln Arg Leu Pro Ile Gln Asp Ile Leu Ser Ala Phe Ser Val Tyr
    370                 375                 380

Val Asn Asn Thr Glu Ser Tyr Ile His Arg Asn Leu Pro Thr Leu Glu
```

385 390 395 400

Glu Tyr Asp Ser Tyr Trp Trp Leu Gly Gly Leu Val Ile Cys Ser Leu
405 410 415

Leu Thr Leu Ile Val Ile Phe Tyr Tyr Leu Gly Leu Leu Cys Gly Val
420 425 430

Cys Gly Tyr Asp Arg His Ala Thr Pro Thr Thr Arg Gly Cys Val Ser
435 440 445

Asn Thr Gly Gly Val Phe Leu Met Val Gly Val Gly Leu Ser Phe Leu
450 455 460

Phe Cys Trp Ile Leu Met Ile Ile Val Val Leu Thr Phe Val Phe Gly
465 470 475 480

Ala Asn Val Glu Lys Leu Ile Cys Glu Pro Tyr Thr Ser Lys Glu Leu
485 490 495

Phe Arg Val Leu Asp Thr Pro Tyr Leu Leu Asn Glu Asp Trp Glu Tyr
500 505 510

Tyr Leu Ser Gly Lys Leu Phe Asn Lys Ser Lys Met Lys Leu Thr Phe
515 520 525

Glu Gln Val Tyr Ser Asp Cys Lys Lys Asn Arg Gly Thr Tyr Gly Thr
530 535 540

Leu His Leu Gln Asn Ser Phe Asn Ile Ser Glu His Leu Asn Ile Asn
545 550 555 560

Glu His Thr Gly Ser Ile Ser Ser Glu Leu Glu Ser Leu Lys Val Asn
565 570 575

Leu Asn Ile Phe Leu Leu Gly Ala Ala Gly Arg Lys Asn Leu Gln Asp
580 585 590

Phe Ala Ala Cys Gly Ile Asp Arg Met Asp Tyr Asp Ser Tyr Leu Ala
595 600 605

Gln Thr Gly Lys Ser Pro Ala Gly Val Asn Leu Leu Ser Phe Ala Tyr
610 615 620

Asp Leu Glu Ala Lys Ala Asn Ser Leu Pro Pro Gly Asn Leu Arg Asn
625 630 635 640

Ser Leu Lys Arg Asp Ala Gln Thr Ile Lys Thr Ile His Gln Gln Arg
645 650 655

Val Leu Pro Ile Glu Gln Ser Leu Ser Thr Leu Tyr Gln Ser Val Lys
660 665 670

Ile Leu Gln Arg Thr Gly Asn Gly Leu Leu Glu Arg Val Thr Arg Thr
675 680 685

Leu Ala Ser Leu Asp Phe Ala Gln Asn Phe Ile Thr Asn Asn Thr Ser
690 695 700

Ser Val Ile Ile Glu Glu Thr Lys Lys Tyr Gly Arg Thr Ile Ile Gly
705 710 715 720

```
Tyr Phe Glu His Tyr Leu Gln Trp Ile Glu Phe Ser Ile Ser Glu Lys
                725                 730                 735

Val Ala Ser Cys Lys Pro Val Ala Thr Ala Leu Asp Thr Ala Val Asp
            740                 745                 750

Val Phe Leu Cys Ser Tyr Ile Ile Asp Pro Leu Asn Leu Phe Trp Phe
        755                 760                 765

Gly Ile Gly Lys Ala Thr Val Phe Leu Leu Pro Ala Leu Ile Phe Ala
    770                 775                 780

Val Lys Leu Ala Lys Tyr Tyr Arg Arg Met Asp Ser Glu Asp Val Tyr
785                 790                 795                 800

Asp Asp Val Glu Thr Ile Pro Met Lys Asn Met Glu Asn Gly Asn Asn
                805                 810                 815

Gly Tyr His Lys Asp His Val Tyr Gly Ile His Asn Pro Val Met Thr
            820                 825                 830

Ser Pro Ser Gln His
        835
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<210> 39
<211> 2363
<212> DNA
<213> Homo sapiens

<400> 39

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ggctgagtgg gcccgccact gtggaagaga ggaccctgga gggagggtgt ccttggacct 180
gtggaccggg cccaagaaga aaaacgtccc atcctcggcc cagcgtggat cccaccaccg 240
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ccacacagcc gccaacgtgg cgtccgagag atgctgtcct cacacacaaa gggaccaccg 480
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cagtcttggc agatggcggc caagaaacgg cctctggggc aatcacacac ggagatgacc 1140
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ggggacccccc atgcctgagc ctggtggagc aggggactga ggatcccggt ttgagggagg 1860
```

```
agacagctga ggacctgaaa tcataagtct tgggaaagga ggaatttggg ggccaggact 1920
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ctggggtcca acggctgagt ctgaaggaag agcaggacag aacacctagg tgcttgggga 2040
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```

<210> 40
<211> 417
<212> PRT
<213> Homo sapiens

<400> 40

```
Met Ala Gln Lys Glu Gly Gly Arg Thr Val Pro Cys Cys Ser Arg Pro
  1               5                  10                  15

Lys Val Ala Ala Leu Thr Ala Gly Thr Leu Leu Leu Leu Thr Ala Ile
             20                  25                  30

Gly Ala Ala Ser Trp Ala Ile Val Ala Val Leu Leu Arg Ser Asp Gln
         35                  40                  45

Glu Pro Leu Tyr Pro Val Gln Val Ser Ser Ala Asp Ala Arg Leu Met
     50                  55                  60

Val Phe Asp Lys Thr Glu Gly Thr Trp Arg Leu Leu Cys Ser Ser Arg
 65                  70                  75                  80

Ser Asn Ala Arg Val Ala Gly Leu Ser Cys Glu Glu Met Gly Phe Leu
                 85                  90                  95

Arg Ala Leu Thr His Ser Glu Leu Asp Val Arg Thr Ala Gly Ala Asn
            100                 105                 110

Gly Thr Ser Gly Phe Phe Cys Val Asp Glu Gly Arg Leu Pro His Thr
        115                 120                 125

Gln Arg Leu Leu Glu Val Ile Ser Val Cys Asp Cys Pro Arg Gly Arg
    130                 135                 140

Phe Leu Ala Ala Ile Cys Gln Asp Cys Gly Arg Arg Lys Leu Pro Val
145                 150                 155                 160

Asp Arg Ile Val Gly Gly Arg Asp Thr Ser Leu Gly Arg Trp Pro Trp
                165                 170                 175

Gln Val Ser Leu Arg Tyr Asp Gly Ala His Leu Cys Gly Gly Ser Leu
            180                 185                 190

Leu Ser Gly Asp Trp Val Leu Thr Ala Ala His Cys Phe Pro Glu Arg
        195                 200                 205

Asn Arg Val Leu Ser Arg Trp Arg Val Phe Ala Gly Ala Val Ala Gln
    210                 215                 220

Ala Ser Pro His Gly Leu Gln Leu Gly Val Gln Ala Val Val Tyr His
225                 230                 235                 240
```

```
Gly Gly Tyr Leu Pro Phe Arg Asp Pro Asn Ser Glu Glu Asn Ser Asn
                245                 250                 255

Asp Ile Ala Leu Val His Leu Ser Ser Pro Leu Pro Leu Thr Glu Tyr
            260                 265                 270

Ile Gln Pro Val Cys Leu Pro Ala Ala Gly Gln Ala Leu Val Asp Gly
        275                 280                 285

Lys Ile Cys Thr Val Thr Gly Trp Gly Asn Thr Gln Tyr Tyr Gly Gln
    290                 295                 300

Gln Ala Gly Val Leu Gln Glu Ala Arg Val Pro Ile Ile Ser Asn Asp
305                 310                 315                 320

Val Cys Asn Gly Ala Asp Phe Tyr Gly Asn Gln Ile Lys Pro Lys Met
                325                 330                 335

Phe Cys Ala Gly Tyr Pro Glu Gly Gly Ile Asp Ala Cys Gln Gly Asp
            340                 345                 350

Ser Gly Gly Pro Phe Val Cys Glu Asp Ser Ile Ser Arg Thr Pro Arg
        355                 360                 365

Trp Arg Leu Cys Gly Ile Val Ser Trp Gly Thr Gly Cys Ala Leu Ala
    370                 375                 380

Gln Lys Pro Gly Val Tyr Thr Lys Val Ser Asp Phe Arg Glu Trp Ile
385                 390                 395                 400

Phe Gln Ala Ile Lys Thr His Ser Glu Ala Ser Gly Met Val Thr Gln
                405                 410                 415

Leu
```

<210> 41
<211> 381
<212> PRT
<213> Homo sapiens

<400> 41

```
Met Ser Ser Arg Ile Ala Arg Ala Leu Ala Leu Val Val Thr Leu Leu
  1               5                  10                  15

His Leu Thr Arg Leu Ala Leu Ser Thr Cys Pro Ala Ala Cys His Cys
             20                  25                  30

Pro Leu Glu Ala Pro Lys Cys Ala Pro Gly Val Gly Leu Val Arg Asp
         35                  40                  45

Gly Cys Gly Cys Cys Lys Val Cys Ala Lys Gln Leu Asn Glu Asp Cys
     50                  55                  60

Ser Lys Thr Gln Pro Cys Asp His Thr Lys Gly Leu Glu Cys Asn Phe
 65                  70                  75                  80

Gly Ala Ser Ser Thr Ala Leu Lys Gly Ile Cys Arg Ala Gln Ser Glu
                 85                  90                  95

Gly Arg Pro Cys Glu Tyr Asn Ser Arg Ile Tyr Gln Asn Gly Glu Ser
```

```
            100                 105                 110

Phe Gln Pro Asn Cys Lys His Gln Cys Thr Cys Ile Asp Gly Ala Val
        115                 120                 125

Gly Cys Ile Pro Leu Cys Pro Gln Glu Leu Ser Leu Pro Asn Leu Gly
    130                 135                 140

Cys Pro Asn Pro Arg Leu Val Lys Val Thr Gly Gln Cys Cys Glu Glu
145                 150                 155                 160

Trp Val Cys Asp Glu Asp Ser Ile Lys Asp Pro Met Glu Asp Gln Asp
                165                 170                 175

Gly Leu Leu Gly Lys Glu Leu Gly Phe Asp Ala Ser Glu Val Glu Leu
            180                 185                 190

Thr Arg Asn Asn Glu Leu Ile Ala Val Gly Lys Gly Ser Ser Leu Lys
        195                 200                 205

Arg Ile Pro Val Phe Gly Met Glu Pro Arg Ile Arg Tyr Asn Pro Leu
    210                 215                 220

Gln Gly Gln Lys Cys Ile Val Gln Thr Thr Ser Trp Ser Gln Cys Ser
225                 230                 235                 240

Lys Thr Cys Gly Thr Gly Ile Ser Thr Arg Val Thr Asn Asp Asn Pro
                245                 250                 255

Glu Cys Arg Leu Val Lys Glu Thr Arg Ile Cys Glu Val Arg Pro Cys
            260                 265                 270

Gly Gln Pro Val Tyr Ser Ser Leu Lys Lys Gly Lys Lys Cys Ser Lys
        275                 280                 285

Thr Lys Lys Ser Pro Glu Pro Val Arg Phe Thr Tyr Ala Gly Cys Leu
    290                 295                 300

Ser Val Lys Lys Tyr Arg Pro Lys Tyr Cys Gly Ser Cys Val Asp Gly
305                 310                 315                 320

Arg Cys Cys Thr Pro Gln Leu Thr Arg Thr Val Lys Met Arg Phe Arg
                325                 330                 335

Cys Glu Asp Gly Glu Thr Phe Ser Lys Asn Val Met Met Ile Gln Ser
            340                 345                 350

Cys Lys Cys Asn Tyr Asn Cys Pro His Ala Asn Glu Ala Ala Phe Pro
        355                 360                 365

Phe Tyr Arg Leu Phe Asn Asp Ile His Lys Phe Arg Asp
    370                 375                 380


<210> 42
<211> 381
<212> PRT
<213> Homo sapiens

<400> 42
Met Ser Ser Arg Ile Ala Arg Ala Leu Ala Leu Val Val Thr Leu Leu
  1               5                  10                  15
```

```
His Leu Thr Arg Leu Ala Leu Ser Thr Cys Pro Ala Ala Cys His Cys
            20                  25                  30

Pro Leu Glu Ala Pro Lys Cys Ala Pro Gly Val Gly Leu Val Arg Asp
        35                  40                  45

Gly Cys Gly Cys Cys Lys Val Cys Ala Lys Gln Leu Asn Glu Asp Cys
    50                  55                  60

Ser Lys Thr Gln Pro Cys Asp His Thr Lys Gly Leu Glu Cys Asn Phe
65                  70                  75                  80

Gly Ala Ser Ser Thr Ala Leu Lys Gly Ile Cys Arg Ala Gln Ser Glu
                85                  90                  95

Gly Arg Pro Cys Glu Tyr Asn Ser Arg Ile Tyr Gln Asn Gly Glu Ser
            100                 105                 110

Phe Gln Pro Asn Cys Lys His Gln Cys Thr Cys Ile Asp Gly Ala Val
        115                 120                 125

Gly Cys Ile Pro Leu Cys Pro Gln Glu Leu Ser Leu Pro Asn Leu Gly
    130                 135                 140

Cys Pro Asn Pro Arg Leu Val Lys Val Thr Gly Gln Cys Cys Glu Glu
145                 150                 155                 160

Trp Val Cys Asp Glu Asp Ser Ile Lys Asp Pro Met Glu Asp Gln Asp
                165                 170                 175

Gly Leu Leu Gly Lys Glu Leu Gly Phe Asp Ala Ser Glu Val Glu Leu
            180                 185                 190

Thr Arg Asn Asn Glu Leu Ile Ala Val Gly Lys Gly Ser Ser Leu Lys
        195                 200                 205

Arg Leu Pro Val Phe Gly Met Glu Pro Arg Ile Leu Tyr Asn Pro Leu
    210                 215                 220

Gln Gly Gln Lys Cys Ile Val Gln Thr Thr Ser Trp Ser Gln Cys Ser
225                 230                 235                 240

Lys Thr Cys Gly Thr Gly Ile Ser Thr Arg Val Thr Asn Asp Asn Pro
                245                 250                 255

Glu Cys Arg Leu Val Lys Glu Thr Arg Ile Cys Glu Val Arg Pro Cys
            260                 265                 270

Gly Gln Pro Val Tyr Ser Ser Leu Lys Lys Gly Lys Lys Cys Ser Lys
        275                 280                 285

Thr Lys Lys Ser Pro Glu Pro Val Arg Phe Thr Tyr Ala Gly Cys Leu
    290                 295                 300

Ser Val Lys Lys Tyr Arg Pro Lys Tyr Cys Gly Ser Cys Val Asp Gly
305                 310                 315                 320

Arg Cys Cys Thr Pro Gln Leu Thr Arg Thr Val Lys Met Arg Phe Arg
                325                 330                 335

Cys Glu Asp Gly Glu Thr Phe Ser Lys Asn Val Met Met Ile Gln Ser
```

```
            340                 345                 350

Cys Lys Cys Asn Tyr Asn Cys Pro His Ala Asn Glu Ala Ala Phe Pro
        355                 360                 365

Phe Tyr Arg Leu Phe Asn Asp Ile His Lys Phe Arg Asp
    370                 375                 380


<210> 43
<211> 381
<212> PRT
<213> Homo sapiens

<400> 43
Met Ser Ser Arg Ile Ala Arg Ala Leu Ala Leu Val Val Thr Leu Leu
  1               5                  10                  15

His Leu Thr Arg Leu Ala Leu Ser Thr Cys Pro Ala Ala Cys His Cys
             20                  25                  30

Pro Leu Glu Ala Pro Lys Cys Ala Pro Gly Val Gly Leu Val Arg Asp
         35                  40                  45

Gly Cys Gly Cys Cys Lys Val Cys Ala Lys Gln Leu Asn Glu Asp Cys
     50                  55                  60

Ser Lys Thr Gln Pro Cys Asp His Thr Lys Gly Leu Glu Cys Asn Phe
 65                  70                  75                  80

Gly Ala Ser Ser Thr Ala Leu Lys Gly Ile Cys Arg Ala Gln Ser Glu
                 85                  90                  95

Gly Arg Pro Cys Glu Tyr Asn Ser Arg Ile Tyr Gln Asn Gly Glu Ser
            100                 105                 110

Phe Gln Pro Asn Cys Lys His Gln Cys Thr Cys Ile Asp Gly Ala Val
        115                 120                 125

Gly Cys Ile Pro Leu Cys Pro Gln Glu Leu Ser Leu Pro Asn Leu Gly
    130                 135                 140

Cys Pro Asn Pro Arg Leu Val Lys Val Thr Gly Gln Cys Cys Glu Glu
145                 150                 155                 160

Trp Val Cys Asp Gln Asp Ser Ile Lys Asp Pro Met Glu Asp Gln Asp
                165                 170                 175

Gly Leu Leu Gly Lys Glu Leu Gly Phe Asp Ala Ser Glu Val Glu Leu
            180                 185                 190

Thr Arg Asn Asn Glu Leu Ile Ala Val Gly Lys Gly Ser Ser Leu Lys
        195                 200                 205

Arg Leu Pro Val Phe Gly Met Glu Pro Arg Ile Leu Tyr Asn Pro Leu
    210                 215                 220

Gln Gly Gln Lys Cys Ile Val Gln Thr Thr Ser Trp Ser Gln Cys Ser
225                 230                 235                 240

Lys Thr Cys Gly Thr Gly Ile Ser Thr Arg Val Thr Asn Asp Asn Pro
                245                 250                 255
```

```
Glu Cys Arg Leu Val Lys Glu Thr Arg Ile Cys Glu Val Arg Pro Cys
            260                 265                 270

Gly Gln Pro Val Tyr Ser Ser Leu Lys Lys Gly Lys Lys Cys Ser Lys
        275                 280                 285

Thr Lys Lys Ser Pro Glu Pro Val Arg Phe Thr Tyr Ala Gly Cys Leu
    290                 295                 300

Ser Val Lys Lys Tyr Arg Pro Lys Tyr Cys Gly Ser Cys Val Asp Gly
305                 310                 315                 320

Arg Cys Cys Thr Pro Gln Leu Thr Arg Thr Val Lys Met Arg Phe Arg
                325                 330                 335

Cys Glu Asp Gly Glu Thr Phe Ser Lys Asn Val Met Met Ile Gln Ser
            340                 345                 350

Cys Lys Cys Asn Tyr Asn Cys Pro His Ala Asn Glu Ala Ala Phe Pro
        355                 360                 365

Phe Tyr Arg Leu Phe Asn Asp Ile His Lys Phe Arg Asp
    370                 375                 380
```

<210> 44
<211> 381
<212> PRT
<213> Homo sapiens

<400> 44

```
Met Ser Ser Arg Ile Ala Arg Ala Leu Ala Leu Val Val Thr Leu Leu
  1               5                  10                  15

His Leu Thr Arg Leu Ala Leu Ser Thr Cys Pro Ala Ala Cys His Cys
             20                  25                  30

Pro Leu Glu Ala Pro Lys Cys Ala Pro Gly Val Gly Leu Val Arg Asp
         35                  40                  45

Gly Cys Gly Cys Cys Lys Val Cys Ala Lys Gln Leu Asn Glu Asp Cys
     50                  55                  60

Ser Lys Thr Gln Pro Cys Asp His Thr Lys Gly Leu Glu Cys Asn Phe
 65                  70                  75                  80

Gly Ala Ser Ser Thr Ala Leu Lys Gly Ile Cys Arg Ala Gln Ser Glu
                 85                  90                  95

Gly Arg Pro Cys Glu Tyr Asn Ser Arg Ile Tyr Gln Asn Gly Glu Ser
            100                 105                 110

Phe Gln Pro Asn Cys Lys His Gln Cys Thr Cys Ile Asp Gly Ala Val
        115                 120                 125

Gly Cys Ile Pro Leu Cys Pro Gln Glu Leu Ser Leu Pro Asn Leu Gly
    130                 135                 140

Cys Pro Asn Pro Arg Leu Val Lys Val Thr Gly Gln Cys Cys Glu Glu
145                 150                 155                 160
```

```
Trp Val Cys Asp Glu Asp Ser Ile Lys Asp Pro Met Glu Asp Gln Asp
                165                 170                 175

Gly Leu Leu Gly Lys Glu Leu Gly Phe Asp Ala Ser Glu Val Glu Leu
            180                 185                 190

Thr Arg Asn Asn Glu Leu Ile Ala Val Gly Lys Gly Ser Ser Leu Lys
        195                 200                 205

Arg Leu Pro Val Phe Gly Met Glu Pro Arg Ile Leu Tyr Asn Pro Leu
    210                 215                 220

Gln Gly Gln Lys Cys Ile Val Gln Thr Thr Ser Trp Ser Gln Cys Ser
225                 230                 235                 240

Lys Thr Cys Gly Thr Gly Ile Ser Thr Arg Val Thr Asn Asp Asn Pro
                245                 250                 255

Glu Cys Arg Leu Val Lys Glu Thr Arg Ile Cys Glu Val Arg Pro Cys
            260                 265                 270

Gly Gln Pro Val Tyr Ser Ser Leu Lys Lys Gly Lys Lys Cys Ser Lys
        275                 280                 285

Thr Lys Lys Ser Pro Glu Pro Val Arg Phe Thr Tyr Ala Gly Cys Leu
    290                 295                 300

Ser Val Lys Lys Tyr Arg Pro Lys Tyr Cys Gly Ser Cys Val Asp Gly
305                 310                 315                 320

Arg Cys Cys Thr Pro Gln Leu Thr Arg Thr Val Lys Met Arg Phe Arg
                325                 330                 335

Cys Glu Asp Gly Glu Thr Phe Ser Lys Asn Val Met Met Ile Gln Ser
            340                 345                 350

Cys Lys Cys Asn Tyr Asn Cys Pro His Ala Asn Glu Ala Ala Phe Pro
        355                 360                 365

Leu Tyr Arg Leu Phe Asn Asp Ile His Lys Phe Arg Asp
    370                 375                 380


<210> 45
<211> 379
<212> PRT
<213> Mus musculus

<400> 45
Met Ser Ser Ser Thr Phe Arg Thr Leu Ala Val Ala Val Thr Leu Leu
  1               5                  10                  15

His Leu Thr Arg Leu Ala Leu Ser Thr Cys Pro Ala Ala Cys His Cys
            20                  25                  30

Pro Leu Glu Ala Pro Lys Cys Ala Pro Gly Val Gly Leu Val Arg Asp
        35                  40                  45

Gly Cys Gly Cys Cys Lys Val Cys Ala Lys Gln Leu Asn Glu Asp Cys
    50                  55                  60

Ser Lys Thr Gln Pro Cys Asp His Thr Lys Gly Leu Glu Cys Asn Phe
```

```
 65                  70                  75                  80

Gly Ala Ser Ser Thr Ala Leu Lys Gly Ile Cys Arg Ala Gln Ser Glu
                 85                  90                  95

Gly Arg Pro Cys Glu Tyr Asn Ser Arg Ile Tyr Gln Asn Gly Glu Ser
            100                 105                 110

Phe Gln Pro Asn Cys Lys His Gln Cys Thr Cys Ile Asp Gly Ala Val
        115                 120                 125

Gly Cys Ile Pro Leu Cys Pro Gln Glu Leu Ser Leu Pro Asn Leu Gly
    130                 135                 140

Cys Pro Asn Pro Arg Leu Val Lys Val Ser Gly Gln Cys Cys Glu Glu
145                 150                 155                 160

Trp Val Cys Asp Glu Asp Ser Ile Lys Asp Ser Leu Asp Asp Gln Asp
                165                 170                 175

Asp Leu Leu Gly Leu Asp Ala Ser Glu Val Glu Leu Thr Arg Asn Asn
            180                 185                 190

Glu Leu Ile Ala Ile Gly Lys Gly Ser Ser Leu Lys Arg Leu Pro Val
        195                 200                 205

Phe Gly Thr Glu Pro Arg Val Leu Phe Asn Pro Leu His Ala His Gly
    210                 215                 220

Gln Lys Cys Ile Val Gln Thr Thr Ser Trp Ser Gln Cys Ser Lys Ser
225                 230                 235                 240

Cys Gly Thr Gly Ile Ser Thr Arg Val Thr Asn Asp Asn Pro Glu Cys
                245                 250                 255

Arg Leu Val Lys Glu Thr Arg Ile Cys Glu Val Arg Pro Cys Gly Gln
            260                 265                 270

Pro Val Tyr Ser Ser Leu Lys Lys Gly Lys Lys Cys Ser Lys Thr Lys
        275                 280                 285

Lys Ser Pro Glu Pro Val Arg Phe Thr Tyr Ala Gly Cys Ser Ser Val
    290                 295                 300

Lys Lys Tyr Arg Pro Lys Tyr Cys Gly Ser Cys Val Asp Gly Arg Cys
305                 310                 315                 320

Cys Thr Pro Leu Gln Thr Arg Thr Val Lys Met Arg Phe Arg Cys Glu
                325                 330                 335

Asp Gly Glu Met Phe Ser Lys Asn Val Met Met Ile Gln Ser Cys Lys
            340                 345                 350

Cys Asn Tyr Asn Cys Pro His Pro Asn Glu Ala Ser Phe Arg Leu Tyr
        355                 360                 365

Ser Leu Phe Asn Asp Ile His Lys Phe Arg Asp
    370                 375
```

<210> 46
<211> 628

<212> PRT
<213> Homo sapiens

<400> 46
Met Ala Leu Gln Arg Leu Asp Pro Cys Trp Ser Cys Gly Asp Arg Pro
1 5 10 15

Gly Ser Leu Leu Phe Leu Leu Phe Ser Leu Gly Trp Val His Pro Ala
20 25 30

Arg Thr Leu Ala Gly Glu Thr Gly Thr Glu Ser Ala Pro Leu Gly Gly
35 40 45

Val Leu Thr Thr Pro His Asn Ile Ser Ser Leu Ser Pro Arg Gln Leu
50 55 60

Leu Gly Phe Pro Cys Ala Glu Val Ser Gly Leu Ser Thr Glu Arg Val
65 70 75 80

Arg Glu Leu Ala Val Ala Leu Ala Gln Lys Asn Val Lys Leu Ser Thr
85 90 95

Glu Gln Leu Arg Cys Leu Ala His Arg Leu Ser Glu Pro Pro Glu Asp
100 105 110

Leu Asp Ala Leu Pro Leu Asp Leu Leu Leu Phe Leu Asn Pro Asp Ala
115 120 125

Phe Ser Gly Pro Gln Ala Cys Thr Arg Phe Phe Ser Arg Ile Thr Lys
130 135 140

Ala Asn Val Asp Leu Leu Pro Arg Gly Ala Pro Glu Arg Gln Arg Leu
145 150 155 160

Leu Pro Ala Ala Leu Ala Cys Trp Gly Val Arg Gly Ser Leu Leu Ser
165 170 175

Glu Ala Asp Val Arg Ala Leu Gly Gly Leu Ala Cys Asp Leu Pro Gly
180 185 190

Arg Phe Val Ala Glu Ser Ala Glu Val Leu Leu Pro Arg Leu Val Ser
195 200 205

Cys Pro Gly Pro Leu Asp Gln Asp Gln Gln Glu Ala Ala Arg Ala Ala
210 215 220

Leu Gln Gly Gly Gly Pro Pro Tyr Gly Pro Pro Ser Thr Trp Ser Val
225 230 235 240

Ser Thr Met Asp Ala Leu Arg Gly Leu Leu Pro Val Leu Gly Gln Pro
245 250 255

Ile Ile Arg Ser Ile Pro Gln Gly Ile Val Ala Ala Trp Arg Gln Arg
260 265 270

Ser Ser Arg Asp Pro Ser Trp Arg Gln Pro Glu Arg Thr Ile Leu Arg
275 280 285

Pro Arg Phe Arg Arg Glu Val Glu Lys Thr Ala Cys Pro Ser Gly Lys
290 295 300

Lys Ala Arg Glu Ile Asp Glu Ser Leu Ile Phe Tyr Lys Lys Trp Glu

```
305                 310                 315                 320

Leu Glu Ala Cys Val Asp Ala Ala Leu Leu Ala Thr Gln Met Asp Arg
                325                 330                 335

Val Asn Ala Ile Pro Phe Thr Tyr Glu Gln Leu Asp Val Leu Lys His
            340                 345                 350

Lys Leu Asp Glu Leu Tyr Pro Gln Gly Tyr Pro Glu Ser Val Ile Gln
        355                 360                 365

His Leu Gly Tyr Leu Phe Leu Lys Met Ser Pro Glu Asp Ile Arg Lys
    370                 375                 380

Trp Asn Val Thr Ser Leu Glu Thr Leu Lys Ala Leu Leu Glu Val Asp
385                 390                 395                 400

Lys Gly His Glu Met Ser Pro Gln Ala Pro Arg Arg Pro Leu Pro Gln
                405                 410                 415

Val Ala Thr Leu Ile Asp Arg Phe Val Lys Gly Arg Gly Gln Leu Asp
            420                 425                 430

Lys Asp Thr Leu Asp Thr Leu Thr Ala Phe Tyr Pro Gly Tyr Leu Cys
        435                 440                 445

Ser Leu Ser Pro Glu Glu Leu Ser Ser Val Pro Pro Ser Ser Ile Trp
    450                 455                 460

Ala Val Arg Pro Gln Asp Leu Asp Thr Cys Asp Pro Arg Gln Leu Asp
465                 470                 475                 480

Val Leu Tyr Pro Lys Ala Arg Leu Ala Phe Gln Asn Met Asn Gly Ser
                485                 490                 495

Glu Tyr Phe Val Lys Ile Gln Ser Phe Leu Gly Gly Ala Pro Thr Glu
            500                 505                 510

Asp Leu Lys Ala Leu Ser Gln Gln Asn Val Ser Met Asp Leu Ala Thr
        515                 520                 525

Phe Met Lys Leu Arg Thr Asp Ala Val Leu Pro Leu Thr Val Ala Glu
    530                 535                 540

Val Gln Lys Leu Leu Gly Pro His Val Glu Gly Leu Lys Ala Glu Glu
545                 550                 555                 560

Arg His Arg Pro Val Arg Asp Trp Ile Leu Arg Gln Arg Gln Asp Asp
                565                 570                 575

Leu Asp Thr Leu Gly Leu Gly Leu Gln Gly Gly Ile Pro Asn Gly Tyr
            580                 585                 590

Leu Val Leu Asp Leu Ser Val Gln Glu Thr Leu Ser Gly Thr Pro Cys
        595                 600                 605

Leu Leu Gly Pro Gly Pro Val Leu Thr Val Leu Ala Leu Leu Leu Ala
    610                 615                 620

Ser Thr Leu Ala
625
```

<210> 47
<211> 630
<212> PRT
<213> Homo sapiens

<400> 47
Met Ala Leu Pro Thr Ala Arg Pro Leu Leu Gly Ser Cys Gly Thr Pro
1 5 10 15

Ala Leu Gly Ser Leu Leu Phe Leu Leu Phe Ser Leu Gly Trp Val Gln
20 25 30

Pro Ser Arg Thr Leu Ala Gly Glu Thr Gly Gln Glu Ala Ala Pro Leu
35 40 45

Asp Gly Val Leu Ala Asn Pro Pro Asn Ile Ser Ser Leu Ser Pro Arg
50 55 60

Gln Leu Leu Gly Phe Pro Cys Ala Glu Val Ser Gly Leu Ser Thr Glu
65 70 75 80

Arg Val Arg Glu Leu Ala Val Ala Leu Ala Gln Lys Asn Val Lys Leu
85 90 95

Ser Thr Glu Gln Leu Arg Cys Leu Ala His Arg Leu Ser Glu Pro Pro
100 105 110

Glu Asp Leu Asp Ala Leu Pro Leu Asp Leu Leu Leu Phe Leu Asn Pro
115 120 125

Asp Ala Phe Ser Gly Pro Gln Ala Cys Thr Arg Phe Phe Ser Arg Ile
130 135 140

Thr Lys Ala Asn Val Asp Leu Leu Pro Arg Gly Ala Pro Glu Arg Gln
145 150 155 160

Arg Leu Leu Pro Ala Ala Leu Ala Cys Trp Gly Val Arg Gly Ser Leu
165 170 175

Leu Ser Glu Ala Asp Val Arg Ala Leu Gly Gly Leu Ala Cys Asp Leu
180 185 190

Pro Gly Arg Phe Val Ala Glu Ser Ala Glu Val Leu Leu Pro Arg Leu
195 200 205

Val Ser Cys Pro Gly Pro Leu Asp Gln Asp Gln Gln Glu Ala Ala Arg
210 215 220

Ala Ala Leu Gln Gly Gly Gly Pro Pro Tyr Gly Pro Pro Ser Thr Trp
225 230 235 240

Ser Val Ser Thr Met Asp Ala Leu Arg Gly Leu Leu Pro Val Leu Gly
245 250 255

Gln Pro Ile Ile Arg Ser Ile Pro Gln Gly Ile Val Ala Ala Trp Arg
260 265 270

Gln Arg Ser Ser Arg Asp Pro Ser Trp Arg Gln Pro Glu Arg Thr Ile
275 280 285

Leu Arg Pro Arg Phe Arg Arg Glu Val Glu Lys Thr Ala Cys Pro Ser

```
    290                 295                 300

Gly Lys Lys Ala Arg Glu Ile Asp Glu Ser Leu Ile Phe Tyr Lys Lys
305                 310                 315                 320

Trp Glu Leu Glu Ala Cys Val Asp Ala Ala Leu Leu Ala Thr Gln Met
                325                 330                 335

Asp Arg Val Asn Ala Ile Pro Phe Thr Tyr Glu Gln Leu Asp Val Leu
            340                 345                 350

Lys His Lys Leu Asp Glu Leu Tyr Pro Gln Gly Tyr Pro Glu Ser Val
        355                 360                 365

Ile Gln His Leu Gly Tyr Leu Phe Leu Lys Met Ser Pro Glu Asp Ile
    370                 375                 380

Arg Lys Trp Asn Val Thr Ser Leu Glu Thr Leu Lys Ala Leu Leu Glu
385                 390                 395                 400

Val Asn Lys Gly His Glu Met Ser Pro Gln Ala Pro Arg Arg Pro Leu
                405                 410                 415

Pro Gln Val Ala Thr Leu Ile Asp Arg Phe Val Lys Gly Arg Gly Gln
            420                 425                 430

Leu Asp Lys Asp Thr Leu Asp Thr Leu Thr Ala Phe Tyr Pro Gly Tyr
        435                 440                 445

Leu Cys Ser Leu Ser Pro Glu Glu Leu Ser Ser Val Pro Pro Ser Ser
    450                 455                 460

Ile Trp Ala Val Arg Pro Gln Asp Leu Asp Thr Cys Asp Pro Arg Gln
465                 470                 475                 480

Leu Asp Val Leu Tyr Pro Lys Ala Arg Leu Ala Phe Gln Asn Met Asn
                485                 490                 495

Gly Ser Glu Tyr Phe Val Lys Ile Gln Ser Phe Leu Gly Gly Ala Pro
            500                 505                 510

Thr Glu Asp Leu Lys Ala Leu Ser Gln Gln Asn Val Ser Met Asp Leu
        515                 520                 525

Ala Thr Phe Met Lys Leu Arg Thr Asp Ala Val Leu Pro Leu Thr Val
    530                 535                 540

Ala Glu Val Gln Lys Leu Leu Gly Pro His Val Glu Gly Leu Lys Ala
545                 550                 555                 560

Glu Glu Arg His Arg Pro Val Arg Asp Trp Ile Leu Arg Gln Arg Gln
                565                 570                 575

Asp Asp Leu Asp Thr Leu Gly Leu Gly Leu Gln Gly Gly Ile Pro Asn
            580                 585                 590

Gly Tyr Leu Val Leu Asp Leu Ser Met Gln Glu Ala Leu Ser Gly Thr
        595                 600                 605

Pro Cys Leu Leu Gly Pro Gly Pro Val Leu Thr Val Leu Ala Leu Leu
    610                 615                 620
```

```
Leu Ala Ser Thr Leu Ala
625                 630


<210> 48
<211> 622
<212> PRT
<213> Homo sapiens

<400> 48
Met Ala Leu Pro Thr Ala Arg Pro Leu Leu Gly Ser Cys Gly Thr Pro
  1               5                  10                  15

Ala Leu Gly Ser Leu Leu Phe Leu Leu Phe Ser Leu Gly Trp Val Gln
             20                  25                  30

Pro Ser Arg Thr Leu Ala Gly Glu Thr Gly Gln Glu Ala Ala Pro Leu
         35                  40                  45

Asp Gly Val Leu Ala Asn Pro Pro Asn Ile Ser Ser Leu Ser Pro Arg
     50                  55                  60

Gln Leu Leu Gly Phe Pro Cys Ala Glu Val Ser Gly Leu Ser Thr Glu
 65                  70                  75                  80

Arg Val Arg Glu Leu Ala Val Ala Leu Ala Gln Lys Asn Val Lys Leu
                 85                  90                  95

Ser Thr Glu Gln Leu Arg Cys Leu Ala His Arg Leu Ser Glu Pro Pro
            100                 105                 110

Glu Asp Leu Asp Ala Leu Pro Leu Asp Leu Leu Leu Phe Leu Asn Pro
        115                 120                 125

Asp Ala Phe Ser Gly Pro Gln Ala Cys Thr Arg Phe Phe Ser Arg Ile
    130                 135                 140

Thr Lys Ala Asn Val Asp Leu Leu Pro Arg Gly Ala Pro Glu Arg Gln
145                 150                 155                 160

Arg Leu Leu Pro Ala Ala Leu Ala Cys Trp Gly Val Arg Gly Ser Leu
                165                 170                 175

Leu Ser Glu Ala Asp Val Arg Ala Leu Gly Gly Leu Ala Cys Asp Leu
            180                 185                 190

Pro Gly Arg Phe Val Ala Glu Ser Ala Glu Val Leu Leu Pro Arg Leu
        195                 200                 205

Val Ser Cys Pro Gly Pro Leu Asp Gln Asp Gln Gln Glu Ala Ala Arg
    210                 215                 220

Ala Ala Leu Gln Gly Gly Gly Pro Pro Tyr Gly Pro Pro Ser Thr Trp
225                 230                 235                 240

Ser Val Ser Thr Met Asp Ala Leu Arg Gly Leu Leu Pro Val Leu Gly
                245                 250                 255

Gln Pro Ile Ile Arg Ser Ile Pro Gln Gly Ile Val Ala Ala Trp Arg
            260                 265                 270

Gln Arg Ser Ser Arg Asp Pro Ser Trp Arg Gln Pro Glu Arg Thr Ile
```

```
        275                 280                 285

Leu Arg Pro Arg Phe Arg Arg Glu Val Glu Lys Thr Ala Cys Pro Ser
    290                 295                 300

Gly Lys Lys Ala Arg Glu Ile Asp Glu Ser Leu Ile Phe Tyr Lys Lys
305                 310                 315                 320

Trp Glu Leu Glu Ala Cys Val Asp Ala Ala Leu Leu Ala Thr Gln Met
                325                 330                 335

Asp Arg Val Asn Ala Ile Pro Phe Thr Tyr Glu Gln Leu Asp Val Leu
            340                 345                 350

Lys His Lys Leu Asp Glu Leu Tyr Pro Gln Gly Tyr Pro Glu Ser Val
        355                 360                 365

Ile Gln His Leu Gly Tyr Leu Phe Leu Lys Met Ser Pro Glu Asp Ile
    370                 375                 380

Arg Lys Trp Asn Val Thr Ser Leu Glu Thr Leu Lys Ala Leu Leu Glu
385                 390                 395                 400

Val Asn Lys Gly His Glu Met Ser Pro Gln Val Ala Thr Leu Ile Asp
                405                 410                 415

Arg Phe Val Lys Gly Arg Gly Gln Leu Asp Lys Asp Thr Leu Asp Thr
            420                 425                 430

Leu Thr Ala Phe Tyr Pro Gly Tyr Leu Cys Ser Leu Ser Pro Glu Glu
        435                 440                 445

Leu Ser Ser Val Pro Pro Ser Ser Ile Trp Ala Val Arg Pro Gln Asp
    450                 455                 460

Leu Asp Thr Cys Asp Pro Arg Gln Leu Asp Val Leu Tyr Pro Lys Ala
465                 470                 475                 480

Arg Leu Ala Phe Gln Asn Met Asn Gly Ser Glu Tyr Phe Val Lys Ile
                485                 490                 495

Gln Ser Phe Leu Gly Gly Ala Pro Thr Glu Asp Leu Lys Ala Leu Ser
            500                 505                 510

Gln Gln Asn Val Ser Met Asp Leu Ala Thr Phe Met Lys Leu Arg Thr
        515                 520                 525

Asp Ala Val Leu Pro Leu Thr Val Ala Glu Val Gln Lys Leu Leu Gly
    530                 535                 540

Pro His Val Glu Gly Leu Lys Ala Glu Glu Arg His Arg Pro Val Arg
545                 550                 555                 560

Asp Trp Ile Leu Arg Gln Arg Gln Asp Asp Leu Asp Thr Leu Gly Leu
                565                 570                 575

Gly Leu Gln Gly Gly Ile Pro Asn Gly Tyr Leu Val Leu Asp Leu Ser
            580                 585                 590

Val Gln Glu Ala Leu Ser Gly Thr Pro Cys Leu Leu Gly Pro Gly Pro
        595                 600                 605
```

```
Val Leu Thr Val Leu Ala Leu Leu Leu Ala Ser Thr Leu Ala
    610                 615                 620


<210> 49
<211> 622
<212> PRT
<213> Homo sapiens

<400> 49
Met Ala Leu Pro Thr Ala Arg Pro Leu Leu Gly Ser Cys Gly Thr Pro
  1               5                  10                  15

Ala Leu Gly Ser Leu Leu Phe Leu Leu Phe Ser Leu Gly Trp Val Gln
             20                  25                  30

Pro Ser Arg Thr Leu Ala Gly Glu Thr Gly Gln Glu Ala Ala Pro Leu
         35                  40                  45

Asp Gly Val Leu Ala Asn Pro Pro Asn Ile Ser Ser Leu Ser Pro Arg
     50                  55                  60

Gln Leu Leu Gly Phe Pro Cys Ala Glu Val Ser Gly Leu Ser Thr Glu
 65                  70                  75                  80

Arg Val Arg Glu Leu Ala Val Ala Leu Ala Gln Lys Asn Val Lys Leu
                 85                  90                  95

Ser Thr Glu Gln Leu Arg Cys Leu Ala His Arg Leu Ser Glu Pro Pro
            100                 105                 110

Glu Asp Leu Asp Ala Leu Pro Leu Asp Leu Leu Leu Phe Leu Asn Pro
        115                 120                 125

Asp Ala Phe Ser Gly Pro Gln Ala Cys Thr Arg Phe Phe Ser Arg Ile
    130                 135                 140

Thr Lys Ala Asn Val Asp Leu Leu Pro Arg Gly Ala Pro Glu Arg Gln
145                 150                 155                 160

Arg Leu Leu Pro Ala Ala Leu Ala Cys Trp Gly Val Arg Gly Ser Leu
                165                 170                 175

Leu Ser Glu Ala Asp Val Arg Ala Leu Gly Gly Leu Ala Cys Asp Leu
            180                 185                 190

Pro Gly Arg Phe Val Ala Glu Ser Ala Glu Val Leu Leu Pro Arg Leu
        195                 200                 205

Val Ser Cys Pro Gly Pro Leu Asp Gln Asp Gln Gln Glu Ala Ala Arg
    210                 215                 220

Ala Ala Leu Gln Gly Gly Gly Pro Pro Tyr Gly Pro Pro Ser Thr Trp
225                 230                 235                 240

Ser Val Ser Thr Met Asp Ala Leu Arg Gly Leu Leu Pro Val Leu Gly
                245                 250                 255

Gln Pro Ile Ile Arg Ser Ile Pro Gln Gly Ile Val Ala Ala Trp Arg
            260                 265                 270

Gln Arg Ser Ser Arg Asp Pro Ser Trp Arg Gln Pro Glu Arg Thr Ile
```

```
        275                 280                 285

Leu Arg Pro Arg Phe Arg Arg Glu Val Glu Lys Thr Ala Cys Pro Ser
    290                 295                 300

Gly Lys Lys Ala Arg Glu Ile Asp Glu Ser Leu Ile Phe Tyr Lys Lys
305                 310                 315                 320

Trp Glu Leu Glu Ala Cys Val Asp Ala Ala Leu Leu Ala Thr Gln Met
                325                 330                 335

Asp Arg Val Asn Ala Ile Pro Phe Thr Tyr Glu Gln Leu Asp Val Leu
            340                 345                 350

Lys His Lys Leu Asp Glu Leu Tyr Pro Gln Gly Tyr Pro Glu Ser Val
        355                 360                 365

Ile Gln His Leu Gly Tyr Leu Phe Leu Lys Met Ser Pro Glu Asp Ile
    370                 375                 380

Arg Lys Trp Asn Val Thr Ser Leu Glu Thr Leu Lys Ala Leu Leu Glu
385                 390                 395                 400

Val Asn Lys Gly His Glu Met Ser Pro Gln Val Ala Thr Leu Ile Asp
                405                 410                 415

Arg Phe Val Lys Gly Arg Gly Gln Leu Asp Lys Asp Thr Leu Asp Thr
            420                 425                 430

Leu Thr Ala Phe Tyr Pro Gly Tyr Leu Cys Ser Leu Ser Pro Glu Glu
        435                 440                 445

Leu Ser Ser Val Pro Pro Ser Ser Ile Trp Ala Val Arg Pro Gln Asp
    450                 455                 460

Leu Asp Thr Cys Asp Pro Arg Gln Leu Asp Val Leu Tyr Pro Lys Ala
465                 470                 475                 480

Arg Leu Ala Phe Gln Asn Met Asn Gly Ser Glu Tyr Phe Val Lys Ile
                485                 490                 495

Gln Ser Phe Leu Gly Gly Ala Pro Thr Glu Asp Leu Lys Ala Leu Ser
            500                 505                 510

Gln Gln Asn Val Ser Met Asp Leu Ala Thr Phe Met Lys Leu Arg Thr
        515                 520                 525

Asp Ala Val Leu Pro Leu Thr Val Ala Glu Val Gln Lys Leu Leu Gly
    530                 535                 540

Pro His Val Glu Gly Leu Lys Ala Glu Glu Arg His Arg Pro Val Arg
545                 550                 555                 560

Asp Trp Ile Leu Arg Gln Arg Gln Asp Asp Leu Asp Thr Leu Gly Leu
                565                 570                 575

Gly Leu Gln Gly Gly Ile Pro Asn Gly Tyr Leu Val Leu Asp Leu Ser
            580                 585                 590

Met Gln Glu Ala Leu Ser Gly Thr Pro Cys Leu Leu Gly Pro Gly Pro
        595                 600                 605
```

```
Val Leu Thr Val Leu Ala Leu Leu Leu Ala Ser Thr Leu Ala
    610                 615                 620
```

<210> 50
<211> 622
<212> PRT
<213> Homo sapiens

<400> 50

```
Met Ala Leu Pro Thr Ala Arg Pro Leu Leu Gly Ser Cys Gly Thr Pro
  1               5                  10                  15

Ala Leu Gly Ser Leu Leu Phe Leu Leu Phe Ser Leu Gly Trp Val Gln
             20                  25                  30

Pro Ser Arg Thr Leu Ala Gly Glu Thr Gly Gln Glu Ala Ala Pro Leu
         35                  40                  45

Asp Gly Val Leu Ala Asn Pro Pro Asn Ile Ser Ser Leu Ser Pro Arg
     50                  55                  60

Gln Leu Leu Gly Phe Pro Cys Ala Glu Val Ser Gly Leu Ser Thr Glu
 65                  70                  75                  80

Arg Val Arg Glu Leu Ala Val Ala Leu Ala Gln Lys Asn Val Lys Leu
                 85                  90                  95

Ser Thr Glu Gln Leu Arg Cys Leu Ala His Arg Leu Ser Glu Pro Pro
            100                 105                 110

Glu Asp Leu Asp Ala Leu Pro Leu Asp Leu Leu Leu Phe Leu Asn Pro
        115                 120                 125

Asp Ala Phe Ser Gly Pro Gln Ala Cys Thr Arg Phe Phe Ser Arg Ile
    130                 135                 140

Thr Lys Ala Asn Val Asp Leu Leu Pro Arg Gly Ala Pro Glu Arg Gln
145                 150                 155                 160

Arg Leu Leu Pro Ala Ala Leu Ala Cys Trp Gly Val Arg Gly Ser Leu
                165                 170                 175

Leu Ser Glu Ala Asp Val Arg Ala Leu Gly Gly Leu Ala Cys Asp Leu
            180                 185                 190

Pro Gly Arg Phe Val Ala Glu Ser Ala Glu Val Leu Leu Pro Arg Leu
        195                 200                 205

Val Ser Cys Pro Gly Pro Leu Asp Gln Asp Gln Gln Glu Ala Ala Arg
    210                 215                 220

Ala Ala Leu Gln Gly Gly Gly Pro Pro Tyr Gly Pro Pro Ser Thr Trp
225                 230                 235                 240

Ser Val Ser Thr Met Asp Ala Leu Arg Gly Leu Leu Pro Val Leu Gly
                245                 250                 255

Gln Pro Ile Ile Arg Ser Ile Pro Gln Gly Ile Val Ala Ala Trp Arg
            260                 265                 270

Gln Arg Ser Ser Arg Asp Pro Ser Trp Arg Gln Pro Glu Arg Thr Ile
```

```
        275                 280                 285

Leu Arg Pro Arg Phe Arg Arg Glu Val Glu Lys Thr Ala Cys Pro Ser
    290                 295                 300

Gly Lys Lys Ala Pro Glu Ile Asp Glu Ser Leu Ile Phe Tyr Lys Lys
305                 310                 315                 320

Trp Glu Leu Glu Ala Cys Val Asp Ala Ala Leu Leu Ala Thr Gln Met
                325                 330                 335

Asp Arg Val Asn Ala Ile Pro Phe Thr Tyr Glu Gln Leu Asp Val Leu
            340                 345                 350

Lys His Lys Leu Asp Glu Leu Tyr Pro Gln Gly Tyr Pro Glu Ser Val
        355                 360                 365

Ile Gln His Leu Gly Tyr Leu Phe Leu Lys Met Ser Pro Glu Asp Ile
    370                 375                 380

Arg Lys Trp Asn Val Thr Ser Leu Glu Thr Leu Lys Ala Leu Leu Glu
385                 390                 395                 400

Val Asn Lys Gly His Glu Met Ser Pro Gln Val Ala Thr Leu Ile Asp
                405                 410                 415

Arg Phe Val Lys Gly Arg Gly Gln Leu Asp Lys Asp Thr Leu Asp Thr
            420                 425                 430

Leu Thr Ala Phe Tyr Pro Gly Tyr Leu Cys Ser Leu Ser Pro Glu Glu
        435                 440                 445

Leu Ser Ser Val Pro Pro Ser Ser Ile Trp Ala Val Arg Pro Gln Asp
    450                 455                 460

Leu Asp Thr Cys Asp Pro Arg Gln Leu Asp Val Leu Tyr Pro Lys Ala
465                 470                 475                 480

Arg Leu Ala Phe Gln Asn Met Asn Gly Ser Glu Tyr Phe Val Lys Ile
                485                 490                 495

Gln Ser Phe Leu Gly Gly Ala Pro Thr Glu Asp Leu Lys Ala Leu Ser
            500                 505                 510

Gln Gln Asn Val Ser Met Asp Leu Ala Thr Phe Met Lys Leu Arg Thr
        515                 520                 525

Asp Ala Val Leu Pro Leu Thr Val Ala Glu Val Gln Lys Leu Leu Gly
    530                 535                 540

Pro His Val Glu Gly Leu Lys Ala Glu Glu Arg His Arg Pro Val Arg
545                 550                 555                 560

Asp Trp Ile Leu Arg Gln Arg Gln Asp Asp Leu Asp Thr Leu Gly Leu
                565                 570                 575

Gly Leu Gln Gly Gly Ile Pro Asn Gly Tyr Leu Val Leu Asp Leu Ser
            580                 585                 590

Met Gln Glu Ala Leu Ser Gly Thr Pro Cys Leu Leu Gly Pro Gly Pro
        595                 600                 605
```

```
Val Leu Thr Val Leu Ala Leu Leu Leu Ala Ser Thr Leu Ala
    610                 615                 620


<210> 51
<211> 114
<212> PRT
<213> Homo sapiens

<400> 51
Met Ser Ala Leu Ser Leu Leu Ile Leu Gly Leu Leu Thr Ala Val Pro
  1               5                  10                  15

Pro Ala Ser Cys Gln Gln Gly Leu Gly Asn Leu Gln Pro Trp Met Gln
             20                  25                  30

Gly Leu Ile Ala Val Ala Val Phe Leu Val Leu Val Ala Ile Ala Phe
         35                  40                  45

Ala Val Asn His Phe Trp Cys Gln Glu Glu Pro Glu Pro Ala His Met
     50                  55                  60

Ile Leu Thr Val Gly Asn Lys Ala Asp Gly Val Leu Val Gly Thr Asp
 65                  70                  75                  80

Gly Arg Tyr Ser Ser Met Ala Ala Ser Phe Arg Ser Ser Glu His Glu
                 85                  90                  95

Asn Ala Tyr Glu Asn Val Pro Glu Glu Glu Gly Lys Val Arg Ser Thr
            100                 105                 110

Pro Met


<210> 52
<211> 114
<212> PRT
<213> Homo sapiens

<400> 52
Met Ser Ala Leu Ser Leu Leu Ile Leu Gly Leu Leu Met Ala Val Pro
  1               5                  10                  15

Pro Ala Ser Cys Gln Gln Gly Leu Gly Asn Leu Gln Pro Trp Met Gln
             20                  25                  30

Gly Leu Ile Ala Val Ala Val Phe Leu Val Leu Val Ala Ile Ala Phe
         35                  40                  45

Ala Val Lys His Phe Trp Cys Gln Glu Glu Pro Glu Pro Ala His Met
     50                  55                  60

Ile Leu Thr Val Gly Asn Lys Ala Asp Gly Val Leu Val Gly Thr Asp
 65                  70                  75                  80

Gly Arg Tyr Ser Ser Met Ala Ala Ser Phe Arg Ser Ser Glu His Glu
                 85                  90                  95

Asn Ala Tyr Glu Asn Val Pro Glu Glu Glu Gly Lys Val Arg Ser Thr
            100                 105                 110
```

Pro Met

<210> 53
<211> 114
<212> PRT
<213> Mus musculus

<400> 53
Met Leu Ala Phe Ser Leu Leu Val Leu Gly Leu Leu Ala Glu Val Ala
1 5 10 15

Pro Ala Ser Cys Gln Gln Gly Leu Gly Asn Leu Gln Pro Trp Met Gln
20 25 30

Gly Leu Ile Ala Val Ala Val Phe Leu Val Leu Val Ala Ile Val Phe
35 40 45

Ala Val Asn His Phe Trp Cys Gln Glu Glu Pro Glu Pro Gly Ser Thr
50 55 60

Val Met Ile Ile Gly Asn Lys Ala Asp Gly Val Leu Val Gly Met Asp
65 70 75 80

Gly Arg Tyr Ser Ser Met Ala Ser Gly Phe Arg Ser Ser Glu His Lys
85 90 95

Asn Ala Tyr Glu Asn Val Leu Glu Glu Glu Gly Arg Val Arg Ser Thr
100 105 110

Pro Met

<210> 54
<211> 114
<212> PRT
<213> Rattus norvegicus

<400> 54
Met Leu Ala Leu Ser Leu Leu Ala Leu Gly Leu Leu Ala Glu Val Ala
1 5 10 15

Pro Ala Ser Cys Gln Gln Gly Leu Gly Asn Leu Gln Pro Trp Met Gln
20 25 30

Gly Leu Ile Ala Val Ala Val Phe Leu Val Leu Val Ala Ile Ala Phe
35 40 45

Ala Val Asn His Phe Trp Cys Gln Glu Glu Gln Glu Pro Gly Ser Thr
50 55 60

Met Met Ile Thr Gly Asn Lys Ala Asp Gly Val Leu Val Gly Met Asp
65 70 75 80

Gly Arg Tyr Ser Ser Met Ala Ser Gly Phe Arg Ser Ser Glu His Lys
85 90 95

Asn Ala Phe Glu Asn Val Leu Glu Glu Glu Gly Arg Val Arg Ser Thr
100 105 110

Pro Met

<210> 55
<211> 78
<212> PRT
<213> Rattus norvegicus

<400> 55
Ile Ser Tyr Lys His Ser Arg Pro Pro Ala Ala Pro Gly Val Lys Thr
1 5 10 15

Pro Ala Val Leu Gln Leu Pro Ala Ala Met Leu Ala Leu Ile Leu Leu
20 25 30

Ala Leu Gly Leu Leu Ala Glu Val Ala Pro Ala Ser Cys Leu Gln Gly
35 40 45

Leu Gly Asn Leu Gln Pro Trp Met Leu Gly Leu Ile Ala Val Ala Val
50 55 60

Phe Leu Val Leu Val Ala Ile Ala Phe Pro Val Asn Arg Phe
65 70 75

<210> 56
<211> 159
<212> PRT
<213> Homo sapiens

<400> 56
Met Thr Ala Leu Thr Glu Glu Ala Ala Val Thr Val Thr Pro Pro Ile
1 5 10 15

Thr Ala Gln Gln Ala Asp Asn Ile Glu Gly Pro Ile Ala Leu Lys Phe
20 25 30

Ser His Leu Cys Leu Glu Asp His Asn Ser Tyr Cys Ile Asn Gly Ala
35 40 45

Cys Ala Phe His His Glu Leu Glu Lys Ala Ile Cys Arg Cys Phe Thr
50 55 60

Gly Tyr Thr Gly Glu Arg Cys Glu His Leu Thr Leu Thr Ser Tyr Ala
65 70 75 80

Val Asp Ser Tyr Glu Lys Tyr Ile Ala Ile Gly Ile Gly Val Gly Leu
85 90 95

Leu Leu Ser Gly Phe Leu Val Ile Phe Tyr Cys Tyr Ile Arg Lys Arg
100 105 110

Cys Leu Lys Leu Lys Ser Pro Tyr Asn Val Cys Ser Gly Glu Arg Arg
115 120 125

Pro Leu Tyr Gln Trp Asn Tyr Leu Val Thr Ile His Leu Asp Arg Asn
130 135 140

Pro Gly Ser Leu Leu Leu Asn Lys Ser Leu Gln Leu Ala Leu Lys
145 150 155

<210> 57
<211> 152
<212> PRT
<213> Mus musculus

<400> 57
Met Ala Leu Gly Val Leu Ile Ala Val Cys Leu Leu Phe Lys Ala Met
1 5 10 15

Lys Ala Ala Leu Ser Glu Glu Ala Glu Val Ile Pro Pro Ser Thr Ala
20 25 30

Gln Gln Ser Asn Trp Thr Phe Asn Asn Thr Glu Ala Asp Tyr Ile Glu
35 40 45

Glu Pro Val Ala Leu Lys Phe Ser His Pro Cys Leu Glu Asp His Asn
50 55 60

Ser Tyr Cys Ile Asn Gly Ala Cys Ala Phe His His Glu Leu Lys Gln
65 70 75 80

Ala Ile Cys Arg Cys Phe Thr Gly Tyr Thr Gly Gln Arg Cys Glu His
85 90 95

Leu Thr Leu Thr Ser Tyr Ala Val Asp Ser Tyr Glu Lys Tyr Ile Ala
100 105 110

Ile Gly Ile Gly Val Gly Leu Leu Ile Ser Ala Phe Leu Ala Val Phe
115 120 125

Tyr Cys Tyr Ile Arg Lys Arg Cys Ile Asn Leu Lys Ser Pro Tyr Ile
130 135 140

Ile Cys Ser Gly Gly Ser Pro Leu
145 150

<210> 58
<211> 354
<212> PRT
<213> Mus musculus

<400> 58
Tyr Pro Gln Asp Ser Ala Arg Val Ala Phe Cys Leu Pro Gly Ser Arg
1 5 10 15

Ala Ser Asn Gln Pro Ala Gly Gly Gly Gly Asp Cys Pro Gly Gly Arg
20 25 30

Gly Lys Ser Asn Cys Ser Glu Leu Asn Leu Arg Glu Ser Asp Ile Arg
35 40 45

Val Cys Asp Glu Ser Ser Cys Lys Tyr Gly Gly Val Cys Lys Glu Asp
50 55 60

Gly Asp Gly Leu Lys Cys Ala Cys Gln Phe Gln Cys His Thr Asn Tyr
65 70 75 80

Ile Pro Val Cys Gly Ser Asn Gly Asp Thr Tyr Gln Asn Glu Cys Phe
85 90 95

```
Leu Arg Arg Ala Ala Cys Lys His Gln Lys Asp Ile Thr Val Val Ala
            100                 105                 110

Arg Gly Pro Cys Tyr Ser Asp Asn Gly Ser Gly Ser Gly Glu Gly Ala
        115                 120                 125

Glu Glu Glu Gly Ser Gly Ala Gly Ala His Arg Lys His Ser Lys Cys
    130                 135                 140

Gly Pro Cys Lys Tyr Lys Ala Glu Cys Asp Glu Asp Ala Glu Asn Val
145                 150                 155                 160

Gly Cys Val Cys Asn Ile Asp Cys Ser Gly Tyr Ser Phe Asn Pro Val
                165                 170                 175

Cys Ala Ser Asp Gly Ser Ser Tyr Asn Asn Pro Cys Phe Val Arg Glu
            180                 185                 190

Ala Ser Cys Ile Lys Gln Glu Gln Ile Asp Ile Arg His Leu Gly His
        195                 200                 205

Cys Thr Asp Thr Asp Asp Val Ser Ser Leu Gly Lys Lys Asp Pro Gly
    210                 215                 220

Leu Leu Tyr Arg Pro Asp Val Lys Asp Ala Gly Asp Glu Arg Glu Asp
225                 230                 235                 240

Val Tyr Ile Gly Ser His Met Pro Cys Pro Glu Asn Leu Asn Gly Tyr
                245                 250                 255

Cys Ile His Gly Lys Cys Glu Phe Ile Tyr Ser Thr Gln Lys Ala Ser
            260                 265                 270

Cys Arg Cys Glu Ser Gly Tyr Thr Gly Gln His Cys Glu Lys Thr Asp
        275                 280                 285

Phe Ser Ile Leu Tyr Val Val Pro Ser Arg Gln Lys Leu Thr His Val
    290                 295                 300

Leu Ile Ala Ala Ile Ile Gly Ala Val Gln Ile Ala Ile Ile Val Ala
305                 310                 315                 320

Ile Val Met Cys Ile Thr Arg Lys Cys Pro Lys Asn Asn Arg Gly Arg
                325                 330                 335

Arg Gln Lys Gln Asn Leu Gly His Phe Thr Ser Asp Thr Ser Ser Lys
            340                 345                 350

Met Val
```

<210> 59
<211> 373
<212> PRT
<213> Rattus norvegicus

<400> 59

```
Met Gly Ala Gln Ala Pro Leu Arg Leu Pro Ala Ala Pro Pro Leu Ala
  1               5                  10                  15

Val Cys Gly Tyr Thr Ser Val Leu Leu Leu Phe Ala Phe Cys Leu Pro
```

```
            20                  25                  30

Gly Ser Gly Ala Ser Asn Gln Pro Ala Gly Gly Gly Gly Asp Cys Pro
         35                  40                  45

Gly Gly Arg Gly Lys Ser Ile Asn Cys Ser Glu Leu Asn Leu Arg Glu
     50                  55                  60

Ser Asp Ile Arg Ala Cys Asp Glu Ser Ser Cys Lys Tyr Gly Gly Val
 65                  70                  75                  80

Cys Lys Glu Asp Gly Asp Gly Leu Lys Cys Ala Cys Gln Phe Gln Cys
                 85                  90                  95

His Thr Asn Tyr Ile Pro Val Cys Gly Ser Asn Gly Asp Thr Tyr Gln
            100                 105                 110

Asn Glu Cys Phe Leu Arg Arg Ala Ala Cys Lys His Gln Lys Asp Ile
        115                 120                 125

Thr Val Val Ala Arg Gly Pro Cys Tyr Ser Asp Asn Gly Ser Gly Ser
    130                 135                 140

Gly Glu Gly Glu Glu Glu Gly Ser Gly Ala Gly Ala His Arg Lys His
145                 150                 155                 160

Ser Lys Cys Gly Pro Cys Lys Tyr Lys Ala Glu Cys Asp Glu Asp Ala
                165                 170                 175

Glu Asn Val Gly Cys Val Cys Asn Ile Asp Cys Ser Gly Tyr Ser Phe
            180                 185                 190

Asn Pro Val Cys Ala Ser Asp Gly Ser Ser Tyr Asn Asn Pro Cys Phe
        195                 200                 205

Val Arg Glu Ala Ser Cys Ile Arg Gln Glu Gln Ile Asp Ile Arg His
    210                 215                 220

Leu Gly His Cys Thr Asp Thr Asp Asp Thr Ser Leu Leu Gly Lys Lys
225                 230                 235                 240

Asp Asp Gly Leu Gln Tyr Arg Pro Asp Val Lys Asp Ala Gly Asp Gln
                245                 250                 255

Arg Glu Asp Val Tyr Ile Gly Ser His Met Pro Cys Pro Glu Asn Leu
            260                 265                 270

Asn Gly Tyr Cys Ile His Gly Lys Cys Glu Phe Ile Tyr Ser Thr Gln
        275                 280                 285

Lys Ala Ser Cys Arg Cys Glu Ser Gly Tyr Thr Gly Gln His Cys Glu
    290                 295                 300

Lys Thr Asp Phe Ser Ile Leu Tyr Val Val Pro Ser Arg Gln Lys Leu
305                 310                 315                 320

Thr His Val Leu Ile Ala Ala Ile Ile Gly Ala Val Gln Ile Ala Ile
                325                 330                 335

Ile Val Ala Ile Val Met Cys Ile Thr Arg Lys Cys Pro Lys Asn Asn
            340                 345                 350
```

```
Arg Gly Arg Arg Gln Lys Gln Asn Leu Gly His Phe Thr Ser Glu Thr
        355                 360                 365

Ser Ser Arg Met Val
    370
```

<210> 60
<211> 380
<212> PRT
<213> Homo sapiens

<400> 60

```
Met Gly Ala Ala Ala Ala Glu Ala Pro Leu Arg Leu Pro Ala Ala Pro
  1               5                  10                  15

Pro Leu Ala Phe Cys Cys Tyr Thr Ser Val Leu Leu Leu Phe Ala Phe
             20                  25                  30

Ser Leu Pro Gly Ser Arg Ala Ser Asn Gln Pro Pro Gly Gly Gly Gly
         35                  40                  45

Gly Ser Gly Gly Asp Cys Pro Gly Gly Lys Gly Lys Ser Ile Asn Cys
     50                  55                  60

Ser Glu Leu Asn Val Arg Glu Ser Asp Val Arg Val Cys Asp Glu Ser
 65                  70                  75                  80

Ser Cys Lys Tyr Gly Gly Val Cys Lys Glu Asp Gly Asp Gly Leu Lys
                 85                  90                  95

Cys Ala Cys Gln Phe Gln Cys His Thr Asn Tyr Ile Pro Val Cys Gly
            100                 105                 110

Ser Asn Gly Asp Thr Tyr Gln Asn Glu Cys Phe Leu Arg Arg Ala Ala
        115                 120                 125

Cys Lys His Gln Lys Glu Ile Thr Val Ile Ala Arg Gly Pro Cys Tyr
    130                 135                 140

Ser Asp Asn Gly Ser Gly Ser Gly Glu Gly Glu Glu Glu Gly Ser Gly
145                 150                 155                 160

Ala Glu Val His Arg Lys His Ser Lys Cys Gly Pro Cys Lys Tyr Lys
                165                 170                 175

Ala Glu Cys Asp Glu Asp Ala Glu Asn Val Gly Cys Val Cys Asn Ile
            180                 185                 190

Asp Cys Ser Gly Tyr Ser Phe Asn Pro Val Cys Ala Ser Asp Gly Ser
        195                 200                 205

Ser Tyr Asn Asn Pro Cys Phe Val Arg Glu Ala Ser Cys Ile Lys Gln
    210                 215                 220

Glu Gln Ile Asp Ile Arg His Leu Gly His Cys Thr Asp Thr Asp Asp
225                 230                 235                 240

Thr Ser Leu Leu Gly Lys Lys Asp Asp Gly Leu Gln Tyr Arg Pro Asp
                245                 250                 255

Val Lys Asp Ala Ser Asp Gln Arg Glu Asp Val Tyr Ile Gly Asn His
```

```
            260                 265                 270

Met Pro Cys Pro Glu Asn Leu Asn Gly Tyr Cys Ile His Gly Lys Cys
        275                 280                 285

Glu Phe Ile Tyr Ser Thr Gln Lys Ala Ser Cys Arg Cys Glu Ser Gly
    290                 295                 300

Tyr Thr Gly Gln His Cys Glu Lys Thr Asp Phe Ser Ile Leu Tyr Val
305                 310                 315                 320

Val Pro Ser Arg Gln Lys Leu Thr His Val Leu Ile Ala Ala Ile Ile
                325                 330                 335

Gly Ala Val Gln Ile Ala Ile Ile Val Ala Ile Val Met Cys Ile Thr
            340                 345                 350

Arg Lys Cys Pro Lys Asn Asn Arg Gly Arg Arg Gln Lys Gln Asn Leu
        355                 360                 365

Gly His Phe Thr Ser Asp Thr Ser Ser Arg Met Val
    370                 375                 380


<210> 61
<211> 81
<212> PRT
<213> Homo sapiens

<400> 61
Met Ala Ala Val Ala Ala Ala Ser Ala Glu Leu Leu Ile Ile Gly Trp
  1               5                  10                  15

Tyr Ile Phe Arg Val Leu Leu Gln Val Phe Leu Glu Cys Cys Ile Tyr
             20                  25                  30

Trp Val Gly Phe Ala Phe Arg Asn Pro Pro Gly Thr Gln Pro Ile Ala
         35                  40                  45

Arg Ser Glu Val Phe Arg Tyr Ser Leu Gln Lys Leu Ala Tyr Thr Val
     50                  55                  60

Ser Arg Thr Gly Arg Gln Val Leu Gly Glu Arg Arg Gln Arg Ala Pro
 65                  70                  75                  80

Asn


<210> 62
<211> 81
<212> PRT
<213> Mus musculus

<400> 62
Met Ala Ala Val Ala Ala Ala Ser Ala Glu Leu Leu Ile Ile Gly Trp
  1               5                  10                  15

Tyr Ile Phe Arg Val Leu Leu Gln Val Phe Leu Glu Cys Cys Ile Tyr
             20                  25                  30

Trp Val Gly Phe Ala Phe Arg Asn Pro Pro Gly Thr Gln Pro Ile Ala
```

```
         35                  40                  45

Arg Ser Glu Val Phe Arg Tyr Ser Leu Gln Lys Leu Ala His Thr Val
     50                  55                  60

Ser Arg Thr Gly Arg Gln Val Leu Gly Glu Arg Arg Gln Arg Ala Pro
 65                  70                  75                  80

Asn
```

<210> 63
<211> 81
<212> PRT
<213> Rattus norvegicus

<400> 63

```
Met Ala Ala Val Ala Ala Ala Ser Ala Glu Leu Leu Ile Ile Gly Trp
  1               5                  10                  15

Tyr Ile Phe Arg Val Leu Leu Gln Val Phe Leu Glu Cys Cys Ile Tyr
             20                  25                  30

Trp Val Gly Phe Ala Phe Arg Asn Pro Pro Gly Thr Gln Pro Ile Ala
         35                  40                  45

Arg Ser Glu Val Phe Arg Tyr Ser Leu Gln Lys Leu Ala His Thr Val
     50                  55                  60

Ser Arg Thr Gly Arg Gln Val Leu Gly Glu Arg Arg His Arg Ala Pro
 65                  70                  75                  80

Asn
```

<210> 64
<211> 208
<212> PRT
<213> Mus musculus

<400> 64

```
Met Ala Ala Val Ala Ala Ala Ser Ala Glu Leu Leu Ile Ile Gly Trp
  1               5                  10                  15

Tyr Ile Phe Arg Val Leu Leu Gln Val Phe Leu Glu Cys Cys Ile Tyr
             20                  25                  30

Trp Val Gly Phe Ala Phe Arg Asn Pro Pro Gly Thr Gln Pro Ile Ala
         35                  40                  45

Arg Ser Glu Val Phe Arg Tyr Ser Leu Gln Lys Leu Ala His Thr Val
     50                  55                  60

Ser Arg Thr Gly Arg Gln Val Leu Gly Glu Arg Ser Ser Glu Pro Pro
 65                  70                  75                  80

Thr Glu Ala Pro Ala Pro Ser Pro Gly Arg Pro Cys His Gln Val Leu
                 85                  90                  95

Leu Cys Phe Ser Thr Ala Trp Glu Pro Val Pro Arg Arg Asn Gly Gly
```

```
            100                 105                 110

Ser Leu Cys Leu Leu Val Arg Val Ala Leu Ala Lys Val Ser Glu Gly
        115                 120                 125

Pro Val Ala Pro Arg Lys Ala Ala Pro Thr Met Met Lys Ile Ser Val
    130                 135                 140

Pro Phe Pro Ala Pro Leu Pro Leu Ser His Tyr Arg Arg Val Gly Glu
145                 150                 155                 160

Glu Gly Gly Arg Gly Glu Gln Pro Ser Arg Tyr Gly Arg Arg His His
                165                 170                 175

Ile Leu Ile Trp Thr Lys Ser Glu Gln Tyr His Leu Ser Arg Thr Arg
            180                 185                 190

Ser Tyr His Glu Asp Arg Thr Ala His Gln Pro Ala Glu Trp Thr Phe
        195                 200                 205
```

<210> 65
<211> 55
<212> PRT
<213> Mus musculus

<400> 65

```
Met Val Pro Lys Val Ala Ala Ala Ser Ala Glu Leu Leu Ile Ile Gly
  1               5                  10                  15

Trp Tyr Ile Phe Arg Val Leu Leu Gln Val Phe Arg Tyr Ser Leu Gln
             20                  25                  30

Lys Leu Ala His Thr Val Ser Arg Thr Gly Arg Gln Val Leu Gly Glu
         35                  40                  45

Arg Arg Gln Arg Ala Pro Asn
     50                  55
```

<210> 66
<211> 394
<212> PRT
<213> Homo sapiens

<400> 66

```
Met Ala Met Ala Tyr Leu Ala Trp Arg Leu Ala Arg Arg Ser Cys Pro
  1               5                  10                  15

Ser Ser Leu Gln Val Thr Ser Phe Pro Val Val Gln Leu His Met Asn
             20                  25                  30

Arg Thr Ala Met Arg Ala Ser Gln Lys Asp Phe Glu Asn Ser Met Asn
         35                  40                  45

Gln Val Lys Leu Leu Lys Lys Asp Pro Gly Asn Glu Val Lys Leu Lys
     50                  55                  60

Leu Tyr Ala Leu Tyr Lys Gln Ala Thr Glu Gly Pro Cys Asn Met Pro
```

```
 65                  70                  75                  80

Lys Pro Gly Val Phe Asp Leu Ile Asn Lys Ala Lys Trp Asp Ala Trp
                 85                  90                  95

Asn Ala Leu Gly Ser Leu Pro Lys Glu Ala Ala Arg Gln Asn Tyr Val
            100                 105                 110

Asp Leu Val Ser Ser Leu Cys Pro Ser Leu Glu Ser Ser Ser Gln Val
        115                 120                 125

Glu Pro Gly Thr Asp Arg Lys Ser Thr Gly Phe Glu Thr Leu Val Val
    130                 135                 140

Thr Ser Glu Asp Gly Ile Thr Lys Ile Met Phe Asn Arg Pro Lys Lys
145                 150                 155                 160

Lys Asn Ala Ile Asn Thr Glu Met Tyr His Glu Ile Met Arg Ala Leu
                165                 170                 175

Lys Ala Ala Ser Lys Asp Asp Ser Ile Ile Thr Val Leu Thr Gly Asn
            180                 185                 190

Gly Asp Tyr Tyr Ser Ser Gly Asn Asp Leu Thr Asn Phe Thr Asp Ile
        195                 200                 205

Pro Pro Gly Gly Val Glu Glu Lys Ala Lys Asn Asn Ala Val Leu Leu
    210                 215                 220

Arg Glu Phe Val Gly Cys Phe Ile Asp Phe Pro Lys Pro Leu Ile Ala
225                 230                 235                 240

Val Val Asn Gly Pro Ala Val Gly Ile Ser Val Thr Leu Leu Gly Leu
                245                 250                 255

Phe Asp Ala Val Tyr Ala Ser Asp Arg Ala Thr Phe His Thr Pro Phe
            260                 265                 270

Ser His Leu Gly Gln Ser Pro Glu Gly Cys Ser Ser Tyr Thr Phe Pro
        275                 280                 285

Lys Ile Met Ser Pro Ala Lys Ala Thr Glu Met Leu Ile Phe Gly Lys
    290                 295                 300

Lys Leu Thr Ala Gly Glu Ala Cys Ala Gln Gly Leu Val Thr Glu Val
305                 310                 315                 320

Phe Pro Asp Ser Thr Phe Gln Lys Glu Val Trp Thr Arg Leu Lys Ala
                325                 330                 335

Phe Ala Lys Leu Pro Pro Asn Ala Leu Arg Ile Ser Lys Glu Val Ile
            340                 345                 350

Arg Lys Arg Glu Arg Glu Lys Leu His Ala Val Asn Ala Glu Glu Cys
        355                 360                 365

Asn Val Leu Gln Gly Arg Trp Leu Ser Asp Glu Cys Thr Asn Ala Val
    370                 375                 380

Val Asn Phe Leu Ser Arg Lys Ser Lys Leu
385                 390
```

<210> 67
<211> 394
<212> PRT
<213> Homo sapiens

<400> 67
Met Ala Met Ala Tyr Leu Ala Trp Arg Leu Ala Arg Arg Ser Cys Pro
1 5 10 15

Ser Ser Leu Gln Val Thr Ser Phe Pro Val Val Gln Leu His Met Asn
20 25 30

Arg Thr Ala Met Arg Ala Ser Gln Lys Asp Phe Glu Asn Ser Met Asn
35 40 45

Gln Val Lys Leu Leu Lys Lys Asp Pro Gly Asn Glu Val Lys Leu Lys
50 55 60

Leu Tyr Ala Leu Tyr Lys Gln Ala Thr Glu Gly Pro Cys Asn Met Pro
65 70 75 80

Lys Pro Gly Val Phe Asp Leu Ile Asn Lys Ala Lys Trp Asp Ala Trp
85 90 95

Asn Ala Leu Gly Ser Leu Pro Lys Glu Ala Ala Arg Gln Asn Tyr Val
100 105 110

Asp Leu Val Ser Ser Leu Ser Pro Ser Leu Glu Ser Ser Ser Gln Val
115 120 125

Glu Pro Gly Thr Asp Arg Lys Ser Thr Gly Phe Glu Thr Leu Val Val
130 135 140

Thr Ser Glu Asp Gly Ile Thr Lys Ile Met Phe Asn Arg Pro Lys Lys
145 150 155 160

Lys Asn Ala Ile Asn Thr Glu Met Tyr His Glu Ile Met Arg Ala Leu
165 170 175

Lys Ala Ala Ser Lys Asp Asp Ser Ile Ile Thr Val Leu Thr Gly Asn
180 185 190

Gly Asp Tyr Tyr Ser Ser Gly Asn Asp Leu Thr Asn Phe Thr Asp Ile
195 200 205

Pro Pro Gly Gly Val Glu Glu Lys Ala Lys Asn Asn Ala Val Leu Leu
210 215 220

Arg Glu Phe Val Gly Cys Phe Ile Asp Phe Pro Lys Pro Leu Ile Ala
225 230 235 240

Val Val Asn Gly Pro Ala Val Gly Ile Ser Val Thr Leu Leu Gly Leu
245 250 255

Phe Asp Ala Val Tyr Ala Ser Asp Arg Ala Thr Phe His Thr Pro Phe
260 265 270

Ser His Leu Gly Gln Ser Pro Glu Gly Cys Ser Ser Tyr Thr Phe Pro
275 280 285

Lys Ile Met Ser Pro Ala Lys Ala Thr Glu Met Leu Ile Phe Gly Lys

```
    290                 295                 300

Lys Leu Thr Ala Gly Glu Ala Cys Ala Gln Gly Leu Val Thr Glu Val
305                 310                 315                 320

Phe Pro Asp Ser Thr Phe Gln Lys Glu Val Trp Thr Arg Leu Lys Ala
                325                 330                 335

Phe Ala Lys Leu Pro Pro Asn Ala Leu Arg Ile Ser Lys Glu Val Ile
            340                 345                 350

Arg Lys Arg Glu Arg Glu Lys Leu His Ala Val Asn Ala Glu Glu Cys
        355                 360                 365

Asn Val Leu Gln Gly Arg Trp Leu Ser Asp Glu Cys Thr Asn Ala Val
    370                 375                 380

Val Asn Phe Leu Ser Arg Lys Ser Lys Leu
385                 390


<210> 68
<211> 374
<212> PRT
<213> Homo sapiens

<400> 68
Val Thr Ser Phe Pro Val Val Gln Leu His Met Asn Arg Thr Ala Met
  1               5                  10                  15

Arg Ala Ser Gln Lys Asp Phe Glu Asn Ser Met Asn Gln Val Lys Leu
             20                  25                  30

Leu Lys Lys Asp Pro Gly Asn Glu Val Lys Leu Lys Leu Tyr Ala Leu
         35                  40                  45

Tyr Lys Gln Ala Thr Glu Gly Pro Cys Asn Met Pro Lys Pro Gly Val
     50                  55                  60

Phe Asp Leu Ile Asn Lys Ala Lys Trp Asp Ala Trp Asn Ala Leu Gly
 65                  70                  75                  80

Ser Leu Pro Lys Glu Ala Ala Arg Gln Asn Tyr Val Asp Leu Val Ser
                85                  90                  95

Ser Leu Ser Pro Ser Leu Glu Ser Ser Ser Gln Val Glu Pro Gly Thr
            100                 105                 110

Asp Arg Lys Ser Thr Gly Phe Glu Thr Leu Val Val Thr Ser Glu Asp
        115                 120                 125

Gly Ile Thr Lys Ile Met Phe Asn Arg Pro Lys Lys Lys Asn Ala Ile
    130                 135                 140

Asn Thr Glu Met Tyr His Glu Ile Met Arg Ala Leu Lys Ala Ala Ser
145                 150                 155                 160

Lys Asp Asp Ser Ile Ile Thr Val Leu Thr Gly Asn Gly Asp Tyr Tyr
                165                 170                 175

Ser Ser Gly Asn Asp Leu Thr Asn Phe Thr Asp Ile Pro Pro Gly Gly
            180                 185                 190
```

```
Val Glu Glu Lys Ala Lys Asn Asn Ala Val Leu Leu Arg Glu Phe Val
        195                 200                 205

Gly Cys Phe Ile Asp Phe Pro Lys Pro Leu Ile Ala Val Val Asn Gly
    210                 215                 220

Pro Ala Val Gly Ile Ser Val Thr Leu Leu Gly Leu Phe Asp Ala Val
225                 230                 235                 240

Tyr Ala Ser Asp Arg Ala Thr Phe His Thr Pro Phe Ser His Leu Gly
                245                 250                 255

Gln Ser Pro Glu Gly Cys Ser Ser Tyr Thr Phe Pro Lys Ile Met Ser
            260                 265                 270

Pro Ala Lys Ala Thr Glu Met Leu Ile Phe Gly Lys Lys Leu Thr Ala
        275                 280                 285

Gly Glu Ala Cys Ala Gln Gly Leu Val Thr Glu Val Phe Pro Asp Ser
    290                 295                 300

Thr Phe Gln Lys Glu Val Trp Thr Arg Leu Lys Ala Phe Ala Lys Leu
305                 310                 315                 320

Pro Pro Asn Ala Leu Arg Ile Ser Lys Glu Val Ile Arg Lys Arg Glu
                325                 330                 335

Arg Glu Lys Leu His Ala Val Asn Ala Glu Glu Cys Asn Val Leu Gln
            340                 345                 350

Gly Arg Trp Leu Ser Asp Glu Cys Thr Asn Ala Val Val Asn Phe Leu
        355                 360                 365

Ser Arg Lys Ser Lys Leu
    370
```

<210> 69
<211> 348
<212> PRT
<213> Homo sapiens

<400> 69

```
Met Leu Leu Ser Ile Leu Val Ala Leu Cys Leu Trp Leu Arg Leu Ala
  1               5                  10                  15

Leu Gly Val Arg Gly Ala Pro Cys Glu Ala Val Arg Ile Pro Met Cys
             20                  25                  30

Arg His Met Pro Trp Asn Ile Thr Arg Met Pro Asn His Leu His His
         35                  40                  45

Ser Thr Gln Glu Asn Ala Ile Leu Ala Ile Gly Gln Tyr Glu Glu Leu
     50                  55                  60

Val Asp Val Asn Cys Ser Ser Val Leu Ser Phe Phe Leu Cys Ala Met
 65                  70                  75                  80

Tyr Ala Pro Ile Cys Thr Leu Glu Phe Leu His Asp Pro Ile Lys Pro
                 85                  90                  95
```

```
Cys Lys Ser Val Cys Gln Arg Ala Arg Asp Asp Cys Glu Pro Leu Met
            100                 105                 110

Lys Met Tyr Asn His Ser Trp Pro Glu Ser Leu Ala Cys Asp Glu Leu
        115                 120                 125

Pro Val Tyr Asp Arg Gly Val Cys Ile Ser Pro Glu Ala Ile Val Thr
    130                 135                 140

Asp Leu Pro Glu Asp Val Lys Trp Ile Asp Ile Thr Pro Asp Met Met
145                 150                 155                 160

Val Gln Glu Arg Ser Phe Asp Ala Asp Cys Lys His Leu Ser Pro Asp
                165                 170                 175

Arg Cys Lys Cys Lys Lys Val Lys Pro Thr Leu Ala Thr Tyr Leu Ser
            180                 185                 190

Lys Asn Tyr Ser Tyr Val Ile His Ala Lys Ile Lys Ala Val Gln Arg
        195                 200                 205

Ser Gly Cys Asn Glu Val Thr Thr Val Val Asp Val Lys Glu Ile Phe
    210                 215                 220

Lys Ser Ser Ser Pro Ile Pro Arg Thr Gln Val Pro Leu Ile Thr Asn
225                 230                 235                 240

Ser Ser Cys Gln Cys Pro His Ile Leu Pro His Gln Asp Val Leu Ile
                245                 250                 255

Met Cys Tyr Glu Arg Arg Ser Arg Met Met Leu Leu Glu Asn Cys Leu
            260                 265                 270

Val Glu Lys Trp Arg Asp Gln Leu Ser Arg Arg Ser Thr Gln Trp Glu
        275                 280                 285

Glu Arg Leu Gln Glu Gln Gln Arg Thr Thr Gln Asp Lys Lys Gln Ile
    290                 295                 300

Ala Ser Arg Thr Ser Arg Ser Asn Pro Pro Lys Pro Lys Gly Arg Ser
305                 310                 315                 320

Pro Ala Ser Lys Pro Ala Ser Pro Lys Lys Asn Ile Lys Ala Arg Ser
                325                 330                 335

Ala Pro Lys Lys Ser Asn Pro Lys Lys Ser Thr Ser
            340                 345


<210> 70
<211> 364
<212> PRT
<213> Homo sapiens

<400> 70
Met Asn Arg Thr Ala Met Arg Ala Ser Gln Lys Asp Phe Glu Asn Ser
  1               5                  10                  15

Met Asn Gln Val Lys Leu Leu Lys Lys Asp Pro Gly Asn Glu Val Lys
             20                  25                  30

Leu Lys Leu Tyr Ala Leu Tyr Lys Gln Ala Thr Glu Gly Pro Cys Asn
```

```
         35                  40                  45

Met Pro Lys Pro Gly Val Phe Asp Leu Ile Asn Lys Ala Lys Trp Asp
     50                  55                  60

Ala Trp Asn Ala Leu Gly Ser Leu Pro Lys Glu Ala Ala Arg Gln Asn
 65                  70                  75                  80

Tyr Val Asp Leu Val Ser Ser Leu Ser Pro Ser Leu Glu Ser Ser Ser
                 85                  90                  95

Gln Val Glu Pro Gly Thr Asp Arg Lys Ser Thr Gly Phe Glu Thr Leu
            100                 105                 110

Val Val Thr Ser Glu Asp Gly Ile Thr Lys Ile Met Phe Asn Arg Pro
        115                 120                 125

Lys Lys Lys Asn Ala Ile Asn Thr Glu Met Tyr His Glu Ile Met Arg
    130                 135                 140

Ala Leu Lys Ala Ala Ser Lys Asp Asp Ser Ile Ile Thr Val Leu Thr
145                 150                 155                 160

Gly Asn Gly Asp Cys Tyr Ser Ser Gly Asn Asp Leu Thr Asn Phe Thr
                165                 170                 175

Asp Ile Pro Pro Gly Gly Val Glu Glu Lys Ala Lys Asn Asn Ala Val
            180                 185                 190

Leu Leu Arg Glu Phe Val Gly Cys Phe Ile Asp Phe Pro Lys Pro Leu
        195                 200                 205

Ile Ala Val Val Asn Gly Pro Ala Val Gly Ile Ser Val Thr Leu Leu
    210                 215                 220

Gly Leu Phe Asp Ala Val Tyr Ala Ser Asp Arg Ala Thr Phe His Thr
225                 230                 235                 240

Pro Phe Ser His Leu Gly Gln Ser Pro Glu Gly Cys Ser Ser Tyr Thr
                245                 250                 255

Phe Pro Lys Ile Met Ser Pro Ala Lys Ala Thr Glu Met Leu Ile Phe
            260                 265                 270

Gly Lys Lys Leu Thr Ala Gly Glu Ala Cys Ala Gln Gly Leu Val Thr
        275                 280                 285

Glu Val Phe Pro Asp Ser Thr Phe Gln Lys Glu Val Trp Thr Arg Leu
    290                 295                 300

Lys Ala Phe Ala Lys Leu Pro Pro Asn Val Leu Arg Ile Ser Lys Glu
305                 310                 315                 320

Val Ile Arg Lys Arg Glu Arg Glu Lys Leu His Ala Val Asn Ala Glu
                325                 330                 335

Glu Cys Asn Val Leu Gln Gly Arg Trp Leu Ser Asp Glu Cys Thr Asn
            340                 345                 350

Ala Val Val Asn Phe Leu Ser Arg Lys Ser Lys Leu
        355                 360
```

<210> 71
<211> 966
<212> PRT
<213> Mus musculus

<400> 71
Met Ala Lys Gly Phe Tyr Ile Ser Lys Thr Leu Gly Ile Leu Gly Ile
1 5 10 15

Leu Leu Gly Val Ala Ala Val Cys Thr Ile Ile Ala Leu Ser Val Val
20 25 30

Tyr Ala Gln Glu Lys Asn Arg Asn Ala Glu Asn Ser Ala Thr Ala Pro
35 40 45

Thr Leu Pro Gly Ser Thr Ser Ala Thr Thr Ala Thr Thr Thr Pro Ala
50 55 60

Val Asp Glu Ser Lys Pro Trp Asn Gln Tyr Arg Leu Pro Lys Thr Leu
65 70 75 80

Ile Pro Asp Ala Tyr Arg Val Ile Leu Arg Pro Tyr Leu Thr Pro Asn
85 90 95

Asn Gln Gly Leu Tyr Ile Phe Gln Gly Asn Ser Thr Val Arg Phe Thr
100 105 110

Cys Asn Gln Thr Thr Asp Val Ile Ile Ile His Ser Lys Lys Leu Asn
115 120 125

Tyr Thr Leu Lys Gly Asn His Arg Val Val Leu Arg Thr Leu Asp Gly
130 135 140

Thr Pro Ala Pro Asn Ile Asp Lys Thr Glu Leu Val Glu Arg Thr Glu
145 150 155 160

Tyr Leu Val Val His Leu Gln Gly Ser Leu Val Glu Gly Arg Gln Tyr
165 170 175

Glu Met Asp Ser Gln Phe Gln Gly Glu Leu Ala Asp Asp Leu Ala Gly
180 185 190

Phe Tyr Arg Ser Glu Tyr Met Glu Gly Asp Val Lys Lys Val Val Ala
195 200 205

Thr Thr Gln Met Gln Ala Ala Asp Ala Arg Lys Ser Phe Pro Cys Phe
210 215 220

Asp Glu Pro Ala Met Lys Ala Met Phe Asn Ile Thr Leu Ile Tyr Pro
225 230 235 240

Asn Asn Leu Ile Ala Leu Ser Asn Met Leu Pro Lys Glu Ser Lys Pro
245 250 255

Tyr Pro Glu Asp Pro Ser Cys Thr Met Thr Glu Phe His Ser Thr Pro
260 265 270

Lys Met Ser Thr Tyr Leu Leu Ala Tyr Ile Val Ser Glu Phe Lys Asn
275 280 285

Ile Ser Ser Val Ser Ala Asn Gly Val Gln Ile Gly Ile Trp Ala Arg

```
    290                 295                 300

Pro Ser Ala Ile Asp Glu Gly Gln Gly Asp Tyr Ala Leu Asn Val Thr
305                 310                 315                 320

Gly Pro Ile Leu Asn Phe Phe Ala Gln His Tyr Asn Thr Ser Tyr Pro
                325                 330                 335

Leu Pro Lys Ser Asp Gln Ile Ala Leu Pro Asp Phe Asn Ala Gly Ala
            340                 345                 350

Met Glu Asn Trp Gly Leu Val Thr Tyr Arg Glu Ser Ser Leu Val Phe
        355                 360                 365

Asp Ser Gln Ser Ser Ser Ile Ser Asn Lys Glu Arg Val Val Thr Val
    370                 375                 380

Ile Ala His Glu Leu Ala His Gln Trp Phe Gly Asn Leu Val Thr Val
385                 390                 395                 400

Ala Trp Trp Asn Asp Leu Trp Leu Asn Glu Gly Phe Ala Ser Tyr Val
                405                 410                 415

Glu Tyr Leu Gly Ala Asp Tyr Ala Glu Pro Thr Trp Asn Leu Lys Asp
            420                 425                 430

Leu Met Val Leu Asn Asp Val Tyr Arg Val Met Ala Val Asp Ala Leu
        435                 440                 445

Ala Ser Ser His Pro Leu Ser Ser Pro Ala Asp Glu Ile Lys Thr Pro
    450                 455                 460

Asp Gln Ile Met Glu Leu Phe Asp Ser Ile Thr Tyr Ser Lys Gly Ala
465                 470                 475                 480

Ser Val Ile Arg Met Leu Ser Ser Phe Leu Thr Glu Asp Leu Phe Lys
                485                 490                 495

Lys Gly Leu Ser Ser Tyr Leu His Thr Tyr Gln Tyr Ser Asn Thr Val
            500                 505                 510

Tyr Leu Asp Leu Trp Glu His Leu Gln Lys Ala Val Asn Gln Gln Thr
        515                 520                 525

Ala Val Gln Pro Pro Ala Thr Val Arg Thr Ile Met Asp Arg Trp Ile
    530                 535                 540

Leu Gln Met Gly Phe Pro Val Ile Thr Val Asn Thr Asn Thr Gly Glu
545                 550                 555                 560

Ile Ser Gln Lys His Phe Leu Leu Asp Ser Lys Ser Asn Val Thr Arg
                565                 570                 575

Pro Ser Glu Phe Asn Tyr Ile Trp Ile Ala Pro Ile Pro Phe Leu Lys
            580                 585                 590

Ser Gly Gln Glu Asp His Tyr Trp Leu Asp Val Glu Lys Asn Gln Ser
        595                 600                 605

Ala Lys Phe Gln Thr Ser Ser Asn Glu Trp Ile Leu Leu Asn Ile Asn
    610                 615                 620
```

```
Val Thr Gly Tyr Tyr Leu Val Asn Tyr Asp Glu Asn Asn Trp Lys Lys
625                 630                 635                 640

Leu Gln Asn Gln Leu Gln Thr Asp Leu Ser Val Ile Pro Val Ile Asn
                645                 650                 655

Arg Ala Gln Ile Ile His Asp Ser Phe Asn Leu Ala Ser Ala Lys Met
            660                 665                 670

Ile Pro Ile Thr Leu Ala Leu Asp Asn Thr Leu Phe Leu Val Lys Glu
        675                 680                 685

Ala Glu Tyr Met Pro Trp Gln Ala Ala Leu Ser Ser Leu Asn Tyr Phe
    690                 695                 700

Thr Leu Met Phe Asp Arg Ser Glu Val Tyr Gly Pro Met Lys Arg Tyr
705                 710                 715                 720

Leu Lys Lys Gln Val Thr Pro Leu Phe Phe Tyr Phe Gln Asn Arg Thr
                725                 730                 735

Asn Asn Trp Val Asn Arg Pro Pro Thr Leu Met Glu Gln Tyr Asn Glu
            740                 745                 750

Ile Asn Ala Ile Ser Thr Ala Cys Ser Ser Gly Leu Lys Glu Cys Arg
        755                 760                 765

Asp Leu Val Val Glu Leu Tyr Ser Gln Trp Met Lys Asn Pro Asn Asn
    770                 775                 780

Asn Thr Ile His Pro Asn Leu Arg Ser Thr Val Tyr Cys Asn Ala Ile
785                 790                 795                 800

Ala Phe Gly Gly Glu Glu Glu Trp Asn Phe Ala Trp Glu Gln Phe Arg
                805                 810                 815

Asn Ala Thr Leu Val Asn Glu Ala Asp Lys Leu Arg Ser Ala Leu Ala
            820                 825                 830

Cys Ser Lys Asp Val Trp Ile Leu Asn Arg Tyr Leu Ser Tyr Thr Leu
        835                 840                 845

Asn Pro Asp Tyr Ile Arg Lys Gln Asp Thr Thr Ser Thr Ile Ile Ser
    850                 855                 860

Ile Ala Ser Asn Val Ala Gly His Pro Leu Val Trp Asp Phe Val Arg
865                 870                 875                 880

Ser Asn Trp Lys Lys Leu Phe Glu Asn Tyr Gly Gly Gly Ser Phe Ser
                885                 890                 895

Phe Ala Asn Leu Ile Gln Gly Val Thr Arg Arg Phe Ser Ser Glu Phe
            900                 905                 910

Glu Leu Gln Gln Leu Glu Gln Phe Lys Ala Asp Asn Ser Ala Thr Gly
        915                 920                 925

Phe Gly Thr Gly Thr Arg Ala Leu Glu Gln Ala Leu Glu Lys Thr Arg
    930                 935                 940

Ala Asn Ile Asp Trp Val Lys Glu Asn Lys Asp Ala Val Phe Lys Trp
945                 950                 955                 960
```

```
Phe Thr Glu Asn Ser Ser
                965


<210> 72
<211> 966
<212> PRT
<213> Orycctolagus cuniculus

<400> 72
Met Ala Lys Gly Phe Tyr Ile Ser Lys Ser Leu Gly Ile Leu Gly Ile
  1               5                  10                  15

Leu Leu Gly Val Ala Ala Leu Cys Thr Ile Val Ala Leu Ser Val Val
             20                  25                  30

Tyr Arg Gln Glu Lys Asn Lys Asn Thr Ser Gln Ser Pro Ser Met Ala
         35                  40                  45

Pro Leu Asn Pro Thr Ala Thr Ser Ser Pro Ala Thr Thr Leu Asp Gln
     50                  55                  60

Asn Leu Pro Trp Asn Arg Tyr Arg Leu Pro Lys Thr Leu Ile Pro Asp
 65                  70                  75                  80

Ser Tyr Asn Val Val Leu Arg Pro Tyr Leu Ser Pro Asn Ser Gln Gly
                 85                  90                  95

Leu Tyr Ile Phe Thr Gly Ser Ser Thr Val Arg Phe Thr Cys Gln Glu
            100                 105                 110

Ala Thr Asn Val Ile Ile Ile His Ser Lys Lys Leu Asn Tyr Thr Ile
        115                 120                 125

Thr Gln Gly His Arg Val Val Leu Arg Gly Val Arg Gly Ser Gln Pro
    130                 135                 140

Pro Ala Ile Ala Ser Thr Glu Leu Val Glu Leu Thr Glu Tyr Leu Val
145                 150                 155                 160

Val His Leu Gln Gly Gln Leu Val Ala Gly Ser Gln Tyr Glu Met Asp
                165                 170                 175

Thr Gln Phe Gln Gly Glu Leu Ala Asp Asp Leu Ala Gly Phe Tyr Arg
            180                 185                 190

Ser Glu Tyr Met Glu Gly Asn Val Arg Lys Val Val Ala Thr Thr Gln
        195                 200                 205

Met Gln Ala Ala Asp Ala Arg Lys Ser Phe Pro Cys Phe Asp Glu Pro
    210                 215                 220

Ala Met Lys Ala Thr Phe Asn Ile Thr Pro Ile His Pro Arg Asp Tyr
225                 230                 235                 240

Thr Ala Leu Ser Asn Met Leu Pro Arg Ser Ser Thr Ala Leu Pro Glu
                245                 250                 255

Asp Pro Asn Trp Thr Val Thr Glu Phe His Thr Thr Pro Lys Met Ser
            260                 265                 270
```

```
Thr Tyr Leu Leu Ala Tyr Ile Val Ser Glu Phe Thr Asn Ile Glu Ala
        275                 280                 285

Gln Ser Pro Asn Asn Val Gln Ile Arg Ile Trp Ala Arg Pro Ser Ala
    290                 295                 300

Ile Ser Glu Gly His Gly Gln Tyr Ala Leu Asn Val Thr Gly Pro Ile
305                 310                 315                 320

Leu Asn Phe Phe Ala Asn His Tyr Asn Thr Pro Tyr Pro Leu Glu Lys
                325                 330                 335

Ser Asp Gln Ile Gly Leu Pro Asp Phe Asn Ala Gly Ala Met Glu Asn
            340                 345                 350

Trp Gly Leu Val Thr Tyr Arg Glu Ser Ala Leu Leu Phe Asp Pro Leu
        355                 360                 365

Val Ser Ser Ile Ser Asn Lys Glu Arg Val Val Thr Val Val Ala His
    370                 375                 380

Glu Leu Ala His Gln Trp Phe Gly Asn Leu Val Thr Val Asp Trp Trp
385                 390                 395                 400

Asn Asp Leu Trp Leu Asn Glu Gly Phe Ala Ser Tyr Val Glu Tyr Leu
                405                 410                 415

Gly Ala Asp Tyr Ala Glu Pro Thr Trp Asn Leu Lys Asp Leu Ile Val
            420                 425                 430

Leu Asn Glu Leu His Ser Val Met Ala Val Asp Ala Leu Ala Ser Ser
        435                 440                 445

His Pro Leu Ser Ser Pro Ala Asp Glu Val Asn Thr Pro Ala Gln Ile
    450                 455                 460

Ser Glu Leu Phe Asp Ser Ile Thr Tyr Ser Lys Gly Ala Ser Val Leu
465                 470                 475                 480

Arg Met Leu Ser Ser Phe Leu Thr Glu Asp Leu Phe Lys Glu Gly Leu
                485                 490                 495

Ala Ser Tyr Leu His Thr Phe Ala Tyr Gln Asn Thr Ile Tyr Leu Asp
            500                 505                 510

Leu Trp Glu His Leu Gln Gln Ala Val Asn Ser Gln Ser Ala Ile Gln
        515                 520                 525

Leu Pro Ala Ser Val Arg Asp Ile Met Asp Arg Trp Ile Leu Gln Met
    530                 535                 540

Gly Phe Pro Val Val Thr Val Asn Thr Thr Asn Gly Ile Ile Ser Gln
545                 550                 555                 560

His His Phe Leu Leu Asp Pro Thr Ser Asn Val Thr Arg Pro Ser Asp
                565                 570                 575

Phe Asn Tyr Leu Trp Ile Val Pro Val Ser Ser Met Arg Asn Gly Val
            580                 585                 590

Leu Glu Gln Glu Phe Trp Leu Glu Gly Val Glu Gln Thr Gln Asn Ser
        595                 600                 605
```

```
Leu Phe Arg Val Glu Gly Asp Asn Asn Trp Ile Leu Ala Asn Leu Asn
    610                 615                 620

Val Thr Gly Tyr Tyr Gln Val Asn Tyr Asp Glu Gly Asn Trp Lys Lys
625                 630                 635                 640

Leu Gln Thr Gln Leu Gln Thr Asn Pro Ser Val Ile Pro Val Ile Asn
                645                 650                 655

Arg Ala Gln Ile Ile His Asp Ala Phe Asn Leu Ala Ser Ala Gln Lys
            660                 665                 670

Val Pro Val Thr Leu Ala Leu Asp Asn Thr Leu Phe Leu Ile Arg Glu
        675                 680                 685

Thr Glu Tyr Met Pro Trp Gln Ala Ala Leu Ser Ser Leu Asn Tyr Phe
    690                 695                 700

Lys Leu Met Phe Asp Arg Ser Glu Val Tyr Gly Pro Met Lys Asn Tyr
705                 710                 715                 720

Leu Ser Lys Gln Val Arg Pro Leu Phe Glu His Phe Lys Asn Ile Thr
                725                 730                 735

Asn Asp Trp Thr Arg Arg Pro Asp Thr Leu Met Asp Gln Tyr Asn Glu
            740                 745                 750

Ile Asn Ala Ile Ser Thr Ala Cys Ser Asn Gly Ile Gln Glu Cys Glu
        755                 760                 765

Thr Leu Val Ser Asp Leu Phe Lys Gln Trp Met Asp Asp Pro Ser Asn
    770                 775                 780

Asn Pro Ile His Pro Asn Leu Arg Thr Thr Val Tyr Cys Asn Ala Ile
785                 790                 795                 800

Ala Leu Gly Gly Glu Arg Glu Trp Asp Phe Ala Trp Glu Gln Phe Arg
                805                 810                 815

Asn Ala Thr Leu Val Asn Glu Ala Asp Lys Leu Arg Ser Ala Leu Ala
            820                 825                 830

Cys Ser Asn Glu Val Trp Ile Leu Asn Arg Tyr Leu Ser Tyr Thr Leu
        835                 840                 845

Asn Pro Asp Tyr Ile Arg Arg Gln Asp Ala Thr Ser Thr Ile Asn Ser
    850                 855                 860

Ile Ala Ser Asn Val Ile Gly Gln Thr Leu Val Trp Asp Phe Val Gln
865                 870                 875                 880

Ser Asn Trp Lys Lys Leu Phe Glu Asp Phe Gly Gly Gly Ser Phe Ser
                885                 890                 895

Phe Ala Asn Leu Ile Arg Ala Val Thr Arg Arg Phe Ser Thr Glu Tyr
            900                 905                 910

Glu Leu Gln Gln Leu Glu Gln Phe Arg Leu Asn Asn Leu Asp Thr Gly
        915                 920                 925

Phe Gly Ser Gly Thr Arg Ala Leu Glu Gln Ala Leu Glu Gln Thr Arg
```

```
    930                 935                 940

Ala Asn Ile Lys Trp Val Gln Glu Asn Lys Glu Ala Val Leu Ala Trp
945                 950                 955                 960

Phe Thr Ala Asn Ser Ala
                965
```

<210> 73
<211> 974
<212> PRT
<213> Mus musculus

<400> 73

```
Met Ala Lys Gly Phe Tyr Ile Ser Lys Thr Leu Gly Ile Leu Gly Ile
  1               5                  10                  15

Leu Leu Gly Val Ala Ala Val Cys Thr Ile Ile Ala Leu Ser Val Val
             20                  25                  30

Tyr Ala Gln Glu Lys Asn Arg Asn Ala Glu Asn Ser Ala Thr Ala Pro
         35                  40                  45

Thr Leu Pro Gly Ser Thr Ser Ala Thr Thr Ala Thr Thr Thr Ala Thr
     50                  55                  60

Thr Thr Ala Thr Thr Thr Pro Ala Val Asp Glu Ser Lys Pro Trp Asn
 65                  70                  75                  80

Gln Tyr Arg Leu Pro Lys Thr Leu Ile Pro Asp Ser Tyr Arg Val Ile
                 85                  90                  95

Leu Arg Pro Tyr Leu Thr Pro Asn Asn Gln Gly Leu Tyr Ile Phe Gln
            100                 105                 110

Gly Ser Ser Thr Val Arg Phe Thr Cys Asn Gln Thr Thr Asp Val Ile
        115                 120                 125

Ile Ile His Ser Lys Lys Leu Asn Tyr Thr Leu Lys Gly Asn His Arg
    130                 135                 140

Val Val Leu Arg Thr Leu Asp Gly Thr Pro Ala Pro Asn Ile Asp Lys
145                 150                 155                 160

Thr Glu Leu Val Glu Arg Thr Glu Tyr Leu Val Val His Leu Gln Gly
                165                 170                 175

Ser Leu Val Glu Gly Arg Gln Tyr Glu Met Asp Ser Glu Phe Gln Gly
            180                 185                 190

Glu Leu Ala Asp Asp Leu Ala Gly Phe Tyr Arg Ser Glu Tyr Met Glu
        195                 200                 205

Gly Gly Val Lys Lys Val Val Ala Thr Thr Gln Met Gln Ala Ala Asp
    210                 215                 220

Ala Arg Lys Ser Phe Pro Cys Phe Asp Glu Pro Ala Met Lys Ala Met
225                 230                 235                 240

Phe Asn Ile Thr Leu Ile Tyr Pro Asn Asn Leu Ile Ala Leu Ser Asn
                245                 250                 255
```

```
Met Leu Pro Lys Glu Ser Lys Pro Tyr Pro Glu Asp Pro Ser Cys Thr
            260                 265                 270

Met Thr Glu Phe His Ser Thr Pro Lys Met Ser Thr Tyr Leu Leu Ala
        275                 280                 285

Tyr Ile Val Ser Glu Phe Lys Asn Ile Ser Ser Val Ser Ala Asn Gly
    290                 295                 300

Val Gln Ile Gly Ile Trp Ala Arg Pro Ser Ala Ile Asp Glu Gly Gln
305                 310                 315                 320

Gly Asp Tyr Ala Leu Asn Val Thr Gly Pro Ile Leu Asn Phe Phe Ala
                325                 330                 335

Gln His Tyr Asn Thr Ser Tyr Pro Leu Pro Lys Ser Asp Gln Ile Ala
            340                 345                 350

Leu Pro Asp Phe Asn Ala Gly Ala Met Glu Asn Trp Gly Leu Val Thr
        355                 360                 365

Tyr Arg Glu Ser Ser Leu Val Phe Asp Ser Gln Ser Ser Ser Ile Ser
    370                 375                 380

Asn Lys Glu Arg Val Val Thr Val Ile Ala His Glu Leu Ala His Gln
385                 390                 395                 400

Trp Phe Gly Asn Leu Val Thr Val Ala Trp Trp Asn Asp Leu Trp Leu
                405                 410                 415

Asn Glu Gly Phe Ala Ser Tyr Val Glu Tyr Leu Gly Ala Asp Tyr Ala
            420                 425                 430

Glu Pro Thr Trp Asn Leu Lys Asp Leu Met Val Leu Asn Asp Val Tyr
        435                 440                 445

Arg Val Met Ala Val Asp Ala Leu Ala Ser Ser His Pro Leu Ser Ser
    450                 455                 460

Pro Ala Asp Glu Ile Lys Thr Pro Asp Gln Ile Met Glu Leu Phe Asp
465                 470                 475                 480

Ser Ile Thr Tyr Ser Lys Gly Ala Ser Val Ile Arg Met Leu Ser Ser
                485                 490                 495

Phe Leu Thr Glu Asp Leu Phe Lys Lys Gly Leu Ser Ser Tyr Leu His
            500                 505                 510

Thr Tyr Gln Tyr Ser Asn Thr Val Tyr Leu Asp Leu Trp Glu His Leu
        515                 520                 525

Gln Lys Ala Val Asn Gln Gln Thr Ala Val Gln Leu Pro Ala Thr Val
    530                 535                 540

Arg Thr Ile Met Asp Arg Trp Ile Leu Gln Met Gly Phe Pro Val Ile
545                 550                 555                 560

Thr Val Asn Thr Ser Thr Gly Glu Ile Ser Gln Lys His Phe Leu Leu
                565                 570                 575

Asp Ser Lys Ser Asn Val Thr Arg Pro Ser Glu Phe Asn Tyr Ile Trp
```

```
            580                 585                 590

Ile Ala Pro Ile Pro Phe Leu Lys Ser Gly Gln Glu Asp His Tyr Trp
        595                 600                 605

Leu Asp Val Glu Lys Asn Gln Ser Ala Lys Phe Gln Thr Ser Ser Asn
    610                 615                 620

Glu Trp Ile Leu Leu Asn Ile Asn Val Thr Gly Tyr Tyr Leu Val Asn
625                 630                 635                 640

Tyr Asp Glu Asn Asn Trp Lys Lys Leu Gln Asn Gln Leu Gln Thr Asp
                645                 650                 655

Leu Ser Val Ile Pro Val Ile Asn Arg Ala Gln Ile Ile His Asp Ser
            660                 665                 670

Phe Asn Leu Ala Ser Ala Lys Met Ile Pro Ile Thr Leu Ala Leu Asp
        675                 680                 685

Asn Thr Leu Phe Leu Val Lys Glu Thr Glu Tyr Met Pro Trp Gln Ala
    690                 695                 700

Ala Leu Ser Ser Leu Asn Tyr Phe Thr Leu Met Phe Asp Arg Ser Glu
705                 710                 715                 720

Val Tyr Gly Pro Met Lys Arg Tyr Leu Lys Lys Gln Val Met Pro Leu
                725                 730                 735

Phe Phe Tyr Phe Gln Asn Arg Thr Asn Asn Trp Val Asn Arg Pro Pro
            740                 745                 750

Thr Leu Met Glu Gln Tyr Asn Glu Ile Asn Ala Ile Ser Thr Ala Cys
        755                 760                 765

Ser Ser Gly Leu Lys Glu Cys Arg Asp Leu Val Val Glu Leu Tyr Ser
    770                 775                 780

Gln Trp Met Lys Asn Pro Asn Asn Asn Thr Ile His Pro Asn Leu Arg
785                 790                 795                 800

Ser Thr Val Tyr Cys Asn Ala Ile Ala Phe Gly Gly Glu Glu Glu Trp
                805                 810                 815

Asn Phe Ala Trp Glu Gln Phe Arg Asn Ala Thr Leu Val Asn Glu Ala
            820                 825                 830

Asp Lys Leu Arg Ser Ala Leu Ala Cys Ser Lys Asp Val Trp Ile Leu
        835                 840                 845

Asn Arg Tyr Leu Ser Tyr Thr Leu Asn Pro Asp Tyr Ile Arg Lys Gln
    850                 855                 860

Asp Thr Thr Ser Thr Ile Ile Ser Ile Ala Ser Asn Val Ala Gly His
865                 870                 875                 880

Pro Leu Val Trp Asp Phe Val Arg Ser Asn Trp Lys Lys Leu Phe Glu
                885                 890                 895

Asn Tyr Gly Gly Gly Ser Phe Ser Phe Ala Asn Leu Ile Gln Gly Val
            900                 905                 910
```

```
Thr Arg Arg Phe Ser Ser Glu Phe Glu Leu Gln Gln Leu Glu Gln Phe
        915                 920                 925

Lys Ala Asp Asn Ser Ala Thr Gly Phe Gly Thr Gly Thr Arg Ala Leu
    930                 935                 940

Glu Gln Ala Leu Glu Lys Thr Arg Ala Asn Ile Asp Trp Val Lys Glu
945                 950                 955                 960

Asn Lys Asp Ala Val Phe Lys Trp Phe Thr Glu Asn Ser Gly
                965                 970
```

<210> 74
<211> 967
<212> PRT
<213> Homo sapiens

<400> 74

```
Met Ala Lys Gly Phe Tyr Ile Ser Lys Ser Leu Gly Ile Leu Gly Ile
  1               5                  10                  15

Leu Leu Gly Val Ala Ala Val Cys Thr Ile Ile Ala Leu Ser Val Val
             20                  25                  30

Tyr Ser Gln Glu Lys Asn Lys Asn Ala Asn Ser Ser Pro Val Ala Ser
         35                  40                  45

Thr Thr Pro Ser Ala Ser Ala Thr Thr Asn Pro Ala Ser Ala Thr Thr
     50                  55                  60

Leu Asp Gln Ser Lys Ala Trp Asn Arg Tyr Arg Leu Pro Asn Thr Leu
 65                  70                  75                  80

Lys Pro Asp Ser Tyr Gln Val Thr Leu Arg Pro Tyr Leu Thr Pro Asn
                 85                  90                  95

Asp Arg Gly Leu Tyr Val Phe Lys Gly Ser Ser Thr Val Arg Phe Thr
            100                 105                 110

Cys Lys Glu Ala Thr Asp Val Ile Ile Ile His Ser Lys Lys Leu Asn
        115                 120                 125

Tyr Thr Leu Ser Gln Gly His Arg Val Val Leu Arg Gly Val Gly Gly
    130                 135                 140

Ser Gln Pro Pro Asp Ile Asp Lys Thr Glu Leu Val Glu Pro Thr Glu
145                 150                 155                 160

Tyr Leu Val Val His Leu Lys Gly Ser Leu Val Lys Asp Ser Gln Tyr
                165                 170                 175

Glu Met Asp Ser Glu Phe Glu Gly Glu Leu Ala Asp Asp Leu Ala Gly
            180                 185                 190

Phe Tyr Arg Ser Glu Tyr Met Glu Gly Asn Val Arg Lys Val Val Ala
        195                 200                 205

Thr Thr Gln Met Gln Ala Ala Asp Ala Arg Lys Ser Phe Pro Cys Phe
    210                 215                 220

Asp Glu Pro Ala Met Lys Ala Glu Phe Asn Ile Thr Leu Ile His Pro
```

```
225                 230                 235                 240

Lys Asp Leu Thr Ala Leu Ser Asn Met Leu Pro Lys Gly Pro Ser Thr
                245                 250                 255

Pro Leu Pro Glu Asp Pro Asn Trp Asn Val Thr Glu Phe His Thr Thr
            260                 265                 270

Pro Lys Met Ser Thr Tyr Leu Leu Ala Phe Ile Val Ser Glu Phe Asp
        275                 280                 285

Tyr Val Glu Lys Gln Ala Ser Asn Gly Val Leu Ile Arg Ile Trp Ala
    290                 295                 300

Arg Pro Ser Ala Ile Ala Ala Gly His Gly Asp Tyr Ala Leu Asn Val
305                 310                 315                 320

Thr Gly Pro Ile Leu Asn Phe Phe Ala Gly His Tyr Asp Thr Pro Tyr
                325                 330                 335

Pro Leu Pro Lys Ser Asp Gln Ile Gly Leu Pro Asp Phe Asn Ala Gly
            340                 345                 350

Ala Met Glu Asn Trp Gly Leu Val Thr Tyr Arg Glu Asn Ser Leu Leu
        355                 360                 365

Phe Asp Pro Leu Ser Ser Ser Ser Ser Asn Lys Glu Arg Val Val Thr
    370                 375                 380

Val Ile Ala His Glu Leu Ala His Gln Trp Phe Gly Asn Leu Val Thr
385                 390                 395                 400

Ile Glu Trp Trp Asn Asp Leu Trp Leu Asn Glu Gly Phe Ala Ser Tyr
                405                 410                 415

Val Glu Tyr Leu Gly Ala Asp Tyr Ala Glu Pro Thr Trp Asn Leu Lys
            420                 425                 430

Asp Leu Met Val Leu Asn Asp Val Tyr Arg Val Met Ala Val Asp Ala
        435                 440                 445

Leu Ala Ser Ser His Pro Leu Ser Thr Pro Ala Ser Glu Ile Asn Thr
    450                 455                 460

Pro Ala Gln Ile Ser Glu Leu Phe Asp Ala Ile Ser Tyr Ser Lys Gly
465                 470                 475                 480

Ala Ser Val Leu Arg Met Leu Ser Ser Phe Leu Ser Glu Asp Val Phe
                485                 490                 495

Lys Gln Gly Leu Ala Ser Tyr Leu His Thr Phe Ala Tyr Gln Asn Thr
            500                 505                 510

Ile Tyr Leu Asn Leu Trp Asp His Leu Gln Glu Ala Val Asn Asn Arg
        515                 520                 525

Ser Ile Gln Leu Pro Thr Thr Val Arg Asp Ile Met Asn Arg Trp Thr
    530                 535                 540

Leu Gln Met Gly Phe Pro Val Ile Thr Val Asp Thr Ser Thr Gly Thr
545                 550                 555                 560
```

```
Leu Ser Gln Glu His Phe Leu Leu Asp Pro Asp Ser Asn Val Thr Arg
                565                 570                 575

Pro Ser Glu Phe Asn Tyr Val Trp Ile Val Pro Ile Thr Ser Ile Arg
            580                 585                 590

Asp Gly Arg Gln Gln Gln Asp Tyr Trp Leu Ile Asp Val Arg Ala Gln
        595                 600                 605

Asn Asp Leu Phe Ser Thr Ser Gly Asn Glu Trp Val Leu Leu Asn Leu
    610                 615                 620

Asn Val Thr Gly Tyr Tyr Arg Val Asn Tyr Asp Glu Glu Asn Trp Arg
625                 630                 635                 640

Lys Ile Gln Thr Gln Leu Gln Arg Asp His Ser Ala Ile Pro Val Ile
                645                 650                 655

Asn Arg Ala Gln Ile Ile Asn Asp Ala Phe Asn Leu Ala Ser Ala His
            660                 665                 670

Lys Val Pro Val Thr Leu Ala Leu Asn Asn Thr Leu Phe Leu Ile Glu
        675                 680                 685

Glu Arg Gln Tyr Met Pro Trp Glu Ala Ala Leu Ser Ser Leu Ser Tyr
    690                 695                 700

Phe Lys Leu Met Phe Asp Arg Ser Glu Val Tyr Gly Pro Met Lys Asn
705                 710                 715                 720

Tyr Leu Lys Lys Gln Val Thr Pro Leu Phe Ile His Phe Arg Asn Asn
                725                 730                 735

Thr Asn Asn Trp Arg Glu Ile Pro Glu Asn Leu Met Asp Gln Tyr Ser
            740                 745                 750

Glu Val Asn Ala Ile Ser Thr Ala Cys Ser Asn Gly Val Pro Glu Cys
        755                 760                 765

Glu Glu Met Val Ser Gly Leu Phe Lys Gln Trp Met Glu Asn Pro Asn
    770                 775                 780

Asn Asn Pro Ile His Pro Asn Leu Arg Ser Thr Val Tyr Cys Asn Ala
785                 790                 795                 800

Ile Ala Gln Gly Gly Glu Glu Glu Trp Asp Phe Ala Trp Glu Gln Phe
                805                 810                 815

Arg Asn Ala Thr Leu Val Asn Glu Ala Asp Lys Leu Arg Ala Ala Leu
            820                 825                 830

Ala Cys Ser Lys Glu Leu Trp Ile Leu Asn Arg Tyr Leu Ser Tyr Thr
        835                 840                 845

Leu Asn Pro Asp Leu Ile Arg Lys Gln Asp Ala Thr Ser Thr Ile Ile
    850                 855                 860

Ser Ile Thr Asn Asn Val Ile Gly Gln Gly Leu Val Trp Asp Phe Val
865                 870                 875                 880

Gln Ser Asn Trp Lys Lys Leu Phe Asn Asp Tyr Gly Gly Gly Ser Phe
                885                 890                 895
```

```
Ser Phe Ser Asn Leu Ile Gln Ala Val Thr Arg Arg Phe Ser Thr Glu
            900                 905                 910

Tyr Glu Leu Gln Gln Leu Glu Gln Phe Lys Lys Asp Asn Glu Glu Thr
        915                 920                 925

Gly Phe Gly Ser Gly Thr Arg Ala Leu Glu Gln Ala Leu Glu Lys Thr
    930                 935                 940

Lys Ala Asn Ile Lys Trp Val Lys Glu Asn Lys Glu Val Val Leu Gln
945                 950                 955                 960

Trp Phe Thr Glu Asn Ser Lys
                965
```

<210> 75
<211> 967
<212> PRT
<213> Homo sapiens

<400> 75

```
Met Ala Lys Gly Phe Tyr Ile Ser Lys Ser Leu Gly Ile Leu Gly Ile
  1               5                  10                  15

Leu Leu Gly Val Ala Ala Val Cys Thr Ile Ile Ala Leu Ser Val Val
             20                  25                  30

Tyr Ser Gln Glu Lys Asn Lys Asn Ala Asn Ser Ser Pro Val Ala Ser
         35                  40                  45

Thr Thr Pro Ser Ala Ser Ala Thr Thr Asn Pro Ala Ser Ala Thr Thr
     50                  55                  60

Leu Asp Gln Ser Lys Ala Trp Asn Arg Tyr Arg Leu Pro Asn Thr Leu
 65                  70                  75                  80

Lys Pro Asp Ser Tyr Gln Val Thr Leu Arg Pro Tyr Leu Thr Pro Asn
                85                  90                  95

Asp Arg Gly Leu Tyr Val Phe Lys Gly Ser Ser Thr Val Arg Phe Thr
            100                 105                 110

Cys Lys Glu Ala Thr Asp Val Ile Ile Ile His Ser Lys Lys Leu Asn
        115                 120                 125

Tyr Thr Leu Ser Gln Gly His Arg Val Val Leu Arg Gly Val Gly Gly
    130                 135                 140

Ser Gln Pro Pro Asp Ile Asp Lys Thr Glu Leu Val Glu Pro Thr Glu
145                 150                 155                 160

Tyr Leu Val Val His Leu Lys Gly Ser Leu Val Lys Asp Ser Gln Tyr
                165                 170                 175

Glu Met Asp Ser Glu Phe Glu Gly Glu Leu Ala Asp Asp Leu Ala Gly
            180                 185                 190

Phe Tyr Arg Ser Glu Tyr Met Glu Gly Asn Val Arg Lys Val Val Ala
        195                 200                 205
```

```
Thr Thr Gln Met Gln Ala Ala Asp Ala Arg Lys Ser Phe Pro Cys Phe
    210                 215                 220

Asp Glu Pro Ala Met Lys Ala Glu Phe Asn Ile Thr Leu Ile His Pro
225                 230                 235                 240

Lys Asp Leu Thr Ala Leu Ser Asn Met Leu Pro Lys Gly Pro Ser Thr
                245                 250                 255

Pro Leu Pro Glu Asp Pro Asn Trp Asn Val Thr Glu Phe His Thr Thr
            260                 265                 270

Pro Lys Met Ser Thr Tyr Leu Leu Ala Phe Ile Val Ser Glu Phe Asp
        275                 280                 285

Tyr Val Glu Lys Gln Ala Ser Asn Gly Val Leu Ile Arg Ile Trp Ala
    290                 295                 300

Arg Pro Ser Ala Ile Ala Ala Gly His Gly Asp Tyr Ala Leu Asn Val
305                 310                 315                 320

Thr Gly Pro Ile Leu Asn Phe Phe Ala Gly His Tyr Asp Thr Pro Tyr
                325                 330                 335

Pro Leu Pro Lys Ser Asp Gln Ile Gly Leu Pro Asp Phe Asn Ala Gly
            340                 345                 350

Ala Met Glu Asn Trp Gly Leu Val Thr Tyr Arg Glu Asn Ser Leu Leu
        355                 360                 365

Phe Asp Pro Leu Ser Ser Ser Ser Ser Asn Lys Glu Arg Val Val Thr
    370                 375                 380

Val Ile Ala His Glu Leu Ala His Gln Trp Phe Gly Asn Leu Val Thr
385                 390                 395                 400

Ile Glu Trp Trp Asn Asp Leu Trp Leu Asn Glu Gly Phe Ala Ser Tyr
                405                 410                 415

Val Glu Tyr Leu Gly Ala Asp Tyr Ala Glu Pro Thr Trp Asn Leu Lys
            420                 425                 430

Asp Leu Met Val Leu Asn Asp Val Tyr Arg Val Met Ala Val Asp Ala
        435                 440                 445

Leu Ala Ser Ser His Pro Leu Ser Thr Pro Ala Ser Glu Ile Asn Thr
    450                 455                 460

Pro Ala Gln Ile Ser Glu Leu Phe Asp Ala Ile Ser Tyr Ser Lys Gly
465                 470                 475                 480

Ala Ser Val Leu Arg Met Leu Ser Ser Phe Leu Ser Glu Asp Val Phe
                485                 490                 495

Lys Gln Gly Leu Ala Ser Tyr Leu His Thr Phe Ala Tyr Gln Asn Thr
            500                 505                 510

Ile Tyr Leu Asn Leu Trp Asp His Leu Gln Glu Ala Val Asn Asn Arg
        515                 520                 525

Ser Ile Gln Leu Pro Thr Thr Glu Arg Asp Ile Met Asn Arg Trp Thr
    530                 535                 540
```

```
Leu Gln Met Gly Phe Pro Val Ile Thr Val Asp Thr Ser Thr Gly Thr
545                 550                 555                 560

Leu Ser Gln Glu His Phe Leu Leu Asp Pro Asp Ser Asn Val Thr Arg
                565                 570                 575

Pro Ser Glu Phe Asn Tyr Val Trp Ile Val Pro Ile Thr Ser Ile Arg
            580                 585                 590

Asp Gly Arg Gln Gln Gln Asp Tyr Trp Leu Met Asp Val Arg Ala Gln
        595                 600                 605

Asn Asp Leu Phe Ser Thr Ser Gly Asn Glu Trp Val Leu Leu Asn Leu
    610                 615                 620

Asn Val Thr Gly Tyr Tyr Arg Val Asn Tyr Asp Glu Glu Asn Trp Arg
625                 630                 635                 640

Lys Ile Gln Thr Gln Leu Gln Arg Asp His Ser Ala Ile Pro Val Ile
                645                 650                 655

Asn Arg Ala Gln Ile Ile Asn Asp Ala Phe Asn Leu Ala Ser Ala His
            660                 665                 670

Lys Val Pro Val Thr Leu Ala Leu Asn Asn Thr Leu Phe Leu Ile Glu
        675                 680                 685

Glu Arg Gln Tyr Met Pro Trp Glu Ala Ala Leu Ser Ser Leu Ser Tyr
    690                 695                 700

Phe Lys Leu Met Phe Asp Arg Ser Glu Val Tyr Gly Pro Met Lys Asn
705                 710                 715                 720

Tyr Leu Lys Lys Gln Val Thr Pro Leu Phe Ile His Phe Arg Asn Asn
                725                 730                 735

Thr Asn Asn Trp Arg Glu Ile Pro Glu Asn Leu Met Asp Gln Tyr Ser
            740                 745                 750

Glu Val Asn Ala Ile Ser Thr Ala Cys Ser Asn Gly Val Pro Glu Cys
        755                 760                 765

Glu Glu Met Val Ser Gly Leu Phe Lys Gln Trp Met Glu Asn Pro Asn
    770                 775                 780

Asn Asn Pro Ile His Pro Asn Leu Arg Ser Thr Val Tyr Cys Asn Ala
785                 790                 795                 800

Ile Ala Gln Gly Gly Glu Glu Glu Trp Asp Phe Ala Trp Glu Gln Phe
                805                 810                 815

Arg Asn Ala Thr Leu Val Asn Glu Ala Asp Lys Leu Arg Ala Ala Leu
            820                 825                 830

Ala Cys Ser Lys Glu Leu Trp Ile Leu Asn Arg Tyr Leu Ser Tyr Thr
        835                 840                 845

Leu Asn Pro Asp Leu Ile Arg Lys Gln Asp Ala Thr Ser Thr Ile Ile
    850                 855                 860

Ser Ile Thr Asn Asn Val Ile Gly Gln Gly Leu Val Trp Asp Phe Val
```

```
865                 870                 875                 880

Gln Ser Asn Trp Lys Lys Pro Phe Asn Asp Tyr Gly Gly Gly Ser Phe
                885                 890                 895

Ser Phe Ser Asn Leu Ile Gln Ala Val Thr Arg Arg Phe Ser Thr Glu
            900                 905                 910

Tyr Glu Leu Gln Gln Leu Glu Gln Phe Lys Lys Asp Asn Glu Glu Thr
        915                 920                 925

Gly Phe Gly Ser Gly Thr Arg Ala Leu Glu Gln Ala Leu Glu Lys Thr
    930                 935                 940

Lys Ala Asn Ile Lys Trp Val Lys Glu Asn Lys Glu Val Val Leu Gln
945                 950                 955                 960

Trp Phe Thr Glu Asn Ser Lys
                965
```

<210> 76
<211> 74
<212> PRT
<213> Homo sapiens

<400> 76

```
Met Leu Gly Leu Val Leu Ala Leu Leu Ser Ser Ser Ser Ala Glu Glu
  1               5                  10                  15

Tyr Val Gly Leu Ser Ala Asn Gln Cys Ala Val Pro Ala Lys Asp Arg
            20                  25                  30

Val Asp Cys Gly Tyr Pro His Val Thr Pro Lys Glu Cys Asn Asn Arg
        35                  40                  45

Gly Cys Cys Phe Asp Ser Arg Ile Pro Gly Val Pro Trp Cys Phe Lys
    50                  55                  60

Pro Leu Thr Arg Lys Thr Glu Cys Thr Phe
65                  70
```

<210> 77
<211> 61
<212> PRT
<213> Homo sapiens

<400> 77

```
Ala Glu Glu Tyr Val Gly Leu Ser Ala Asn Gln Cys Ala Val Pro Ala
  1               5                  10                  15

Lys Asp Arg Val Asp Cys Gly Tyr Pro His Val Thr Pro Lys Glu Cys
            20                  25                  30

Asn Asn Arg Gly Cys Cys Phe Asp Ser Arg Ile Pro Gly Val Pro Trp
        35                  40                  45

Cys Phe Lys Pro Leu Thr Arg Lys Thr Glu Cys Thr Phe
    50                  55                  60
```

<210> 78
<211> 73
<212> PRT
<213> Homo sapiens

<400> 78
Met Leu Gly Leu Val Leu Ala Leu Leu Ser Ser Ser Ser Ala Glu Glu
1 5 10 15

Tyr Val Gly Leu Ser Ala Asn Gln Cys Ala Val Pro Ala Lys Asp Arg
20 25 30

Val Asp Cys Gly Tyr Pro His Val Thr Pro Lys Glu Cys Asn Asn Arg
35 40 45

Gly Cys Cys Phe Asp Ser Arg Ile Pro Gly Val Pro Trp Cys Phe Lys
50 55 60

Pro Leu Gln Glu Ala Glu Cys Thr Phe
65 70

<210> 79
<211> 80
<212> PRT
<213> Homo sapiens

<400> 79
Met Ala Ala Arg Ala Leu Cys Met Leu Gly Leu Val Leu Ala Leu Leu
1 5 10 15

Ser Ser Ser Ser Ala Glu Glu Tyr Val Gly Leu Ser Ala Asn Gln Cys
20 25 30

Ala Val Pro Ala Lys Asp Arg Val Asp Cys Gly Tyr Pro His Val Thr
35 40 45

Pro Lys Glu Cys Asn Asn Arg Gly Cys Cys Phe Asp Ser Arg Ile Pro
50 55 60

Gly Val Pro Trp Cys Phe Lys Pro Leu Gln Glu Ala Glu Cys Thr Phe
65 70 75 80

<210> 80
<211> 59
<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> (1)
<223> Where Xaa is any amino acid as defined in the specification

<400> 80
Xaa Glu Tyr Val Gly Leu Ser Ala Asn Gln Cys Ala Val Pro Ala Lys
1 5 10 15

```
Asp Arg Val Asp Cys Gly Tyr Pro His Val Thr Pro Lys Glu Cys Asn
             20                  25                  30

Asn Arg Gly Cys Cys Phe Asp Ser Arg Ile Pro Gly Val Pro Trp Cys
         35                  40                  45

Phe Lys Pro Leu Gln Glu Ala Glu Cys Thr Phe
     50                  55


<210> 81
<211> 313
<212> PRT
<213> Homo sapiens

<400> 81
Met Glu Thr Gly Pro Glu Asp Pro Ser Ser Met Pro Glu Glu Ser Ser
  1               5                  10                  15

Pro Arg Arg Thr Pro Gln Ser Ile Pro Tyr Gln Asp Leu Pro His Leu
             20                  25                  30

Val Asn Ala Asp Gly Gln Tyr Leu Phe Cys Arg Tyr Trp Lys Pro Thr
         35                  40                  45

Gly Thr Pro Lys Ala Leu Ile Phe Val Ser His Gly Ala Gly Glu His
     50                  55                  60

Ser Gly Arg Tyr Glu Glu Leu Ala Arg Met Leu Met Gly Leu Asp Leu
 65                  70                  75                  80

Leu Val Phe Ala His Asp His Val Gly His Gly Gln Ser Glu Gly Glu
                 85                  90                  95

Arg Met Val Val Ser Asp Phe His Val Phe Val Arg Asp Val Leu Gln
            100                 105                 110

His Val Asp Ser Met Gln Lys Asp Tyr Pro Gly Leu Pro Val Phe Leu
        115                 120                 125

Leu Gly His Ser Met Gly Gly Ala Ile Ala Ile Leu Thr Ala Ala Glu
    130                 135                 140

Arg Pro Gly His Phe Ala Gly Met Val Leu Ile Ser Pro Leu Val Leu
145                 150                 155                 160

Ala Asn Pro Glu Ser Ala Thr Thr Phe Lys Val Leu Ala Ala Lys Val
                165                 170                 175

Leu Asn Leu Val Leu Pro Asn Leu Ser Leu Gly Pro Ile Asp Ser Ser
            180                 185                 190

Val Leu Ser Arg Asn Lys Thr Glu Val Asp Ile Tyr Asn Ser Asp Pro
        195                 200                 205

Leu Ile Cys Arg Ala Gly Leu Lys Val Cys Phe Gly Ile Gln Leu Leu
    210                 215                 220

Asn Ala Val Ser Arg Val Glu Arg Ala Leu Pro Lys Leu Thr Val Pro
225                 230                 235                 240

Phe Leu Leu Leu Gln Gly Ser Ala Asp Arg Leu Cys Asp Ser Lys Gly
```

```
                245                 250                 255

Ala Tyr Leu Leu Met Glu Leu Ala Lys Ser Gln Asp Lys Thr Leu Lys
            260                 265                 270

Ile Tyr Glu Gly Ala Tyr His Val Leu His Lys Glu Leu Pro Glu Val
        275                 280                 285

Thr Asn Ser Val Phe His Glu Ile Asn Met Trp Val Ser Gln Arg Thr
    290                 295                 300

Ala Thr Ala Gly Thr Ala Ser Pro Pro
305                 310


<210> 82
<211> 303
<212> PRT
<213> Homo sapiens

<400> 82
Met Pro Glu Glu Ser Ser Pro Arg Arg Thr Pro Gln Ser Ile Pro Tyr
  1               5                  10                  15

Gln Asp Leu Pro His Leu Val Asn Ala Asp Gly Gln Tyr Leu Phe Cys
             20                  25                  30

Arg Tyr Trp Lys Pro Thr Gly Thr Pro Lys Ala Leu Ile Phe Val Ser
         35                  40                  45

His Gly Ala Gly Glu His Ser Gly Arg Tyr Glu Glu Leu Ala Arg Met
     50                  55                  60

Leu Met Gly Leu Asp Leu Leu Val Phe Ala His Asp His Val Gly His
 65                  70                  75                  80

Gly Gln Ser Glu Gly Glu Arg Met Val Val Ser Asp Phe His Val Phe
                 85                  90                  95

Val Arg Asp Val Leu Gln His Val Asp Ser Met Gln Lys Asp Tyr Pro
            100                 105                 110

Gly Leu Pro Val Phe Leu Leu Gly His Ser Met Gly Gly Ala Ile Ala
        115                 120                 125

Ile Leu Thr Ala Ala Glu Arg Pro Gly His Phe Ala Gly Met Val Leu
    130                 135                 140

Ile Ser Pro Leu Val Leu Ala Asn Pro Glu Ser Ala Thr Thr Phe Lys
145                 150                 155                 160

Val Leu Ala Ala Lys Val Leu Asn Leu Val Leu Pro Asn Leu Ser Leu
                165                 170                 175

Gly Pro Ile Asp Ser Ser Val Leu Ser Arg Asn Lys Thr Glu Val Asp
            180                 185                 190

Ile Tyr Asn Ser Asp Pro Leu Ile Cys Arg Ala Gly Leu Lys Val Cys
        195                 200                 205

Phe Gly Ile Gln Leu Leu Asn Ala Val Ser Arg Val Glu Arg Ala Leu
    210                 215                 220
```

```
Pro Lys Leu Thr Val Pro Phe Leu Leu Leu Gln Gly Ser Ala Asp Arg
225                 230                 235                 240

Leu Cys Asp Ser Lys Gly Ala Tyr Leu Leu Met Glu Leu Ala Lys Ser
                245                 250                 255

Gln Asp Lys Thr Leu Lys Ile Tyr Glu Gly Ala Tyr His Val Leu His
            260                 265                 270

Lys Glu Leu Pro Glu Val Thr Asn Ser Val Phe His Glu Ile Asn Met
        275                 280                 285

Trp Val Ser Gln Arg Thr Ala Thr Ala Gly Thr Ala Ser Pro Pro
    290                 295                 300


<210> 83
<211> 303
<212> PRT
<213> Mus musculus

<400> 83
Met Pro Glu Ala Ser Ser Pro Arg Arg Thr Pro Gln Asn Val Pro Tyr
  1               5                  10                  15

Gln Asp Leu Pro His Leu Val Asn Ala Asp Gly Gln Tyr Leu Phe Cys
             20                  25                  30

Arg Tyr Trp Lys Pro Ser Gly Thr Pro Lys Ala Leu Ile Phe Val Ser
         35                  40                  45

His Gly Ala Gly Glu His Cys Gly Arg Tyr Asp Glu Leu Ala His Met
     50                  55                  60

Leu Lys Gly Leu Asp Met Leu Val Phe Ala His Asp His Val Gly His
 65                  70                  75                  80

Gly Gln Ser Glu Gly Glu Arg Met Val Val Ser Asp Phe Gln Val Phe
                85                  90                  95

Val Arg Asp Val Leu Gln His Val Asp Thr Ile Gln Lys Asp Tyr Pro
            100                 105                 110

Asp Val Pro Ile Phe Leu Leu Gly His Ser Met Gly Gly Ala Ile Ser
        115                 120                 125

Ile Leu Val Ala Ala Glu Arg Pro Thr Tyr Phe Ser Gly Met Val Leu
    130                 135                 140

Ile Ser Pro Leu Val Leu Ala Asn Pro Glu Ser Ala Ser Thr Leu Lys
145                 150                 155                 160

Val Leu Ala Ala Lys Leu Leu Asn Phe Val Leu Pro Asn Met Thr Leu
                165                 170                 175

Gly Arg Ile Asp Ser Ser Val Leu Ser Arg Asn Lys Ser Glu Val Asp
            180                 185                 190

Leu Tyr Asn Ser Asp Pro Leu Val Cys Arg Ala Gly Leu Lys Val Cys
        195                 200                 205
```

```
Phe Gly Ile Gln Leu Leu Asn Ala Val Ala Arg Val Glu Arg Ala Met
    210                 215                 220

Pro Arg Leu Thr Leu Pro Phe Leu Leu Leu Gln Gly Ser Ala Asp Arg
225                 230                 235                 240

Leu Cys Asp Ser Lys Gly Ala Tyr Leu Leu Met Glu Ser Ser Arg Ser
                245                 250                 255

Gln Asp Lys Thr Leu Lys Met Tyr Glu Gly Ala Tyr His Val Leu His
            260                 265                 270

Arg Glu Leu Pro Glu Val Thr Asn Ser Val Leu His Glu Val Asn Ser
        275                 280                 285

Trp Val Ser His Arg Ile Ala Ala Ala Gly Ala Gly Cys Pro Pro
    290                 295                 300
```

<210> 84
<211> 277
<212> PRT
<213> Ectromelia virus

<400> 84

```
Met Ser Ala Asn Cys Met Phe Asn Leu Asp Asn Asp Tyr Ile Tyr Cys
  1               5                  10                  15

Lys Tyr Trp Lys Pro Ile Thr Tyr Pro Lys Ala Leu Val Phe Ile Ser
             20                  25                  30

His Gly Ala Gly Glu His Ser Gly Arg Tyr Asp Glu Leu Ala Glu Asn
         35                  40                  45

Ile Ser Ser Leu Gly Ile Leu Val Phe Ser His Asp His Ile Gly His
     50                  55                  60

Gly Arg Ser Asn Gly Glu Lys Met Met Ile Asp Asp Phe Gly Thr Tyr
 65                  70                  75                  80

Val Arg Asp Val Val Gln His Val Val Thr Ile Lys Ser Thr Tyr Pro
                85                  90                  95

Gly Val Pro Val Phe Leu Leu Gly His Ser Met Gly Ala Thr Ile Ser
            100                 105                 110

Ile Leu Ala Ala Tyr Glu Asn Pro Asn Leu Phe Thr Ala Met Ile Leu
        115                 120                 125

Met Ser Pro Leu Val Asn Ala Asp Ala Val Pro Arg Leu Asn Leu Leu
    130                 135                 140

Ala Ala Lys Leu Met Gly Thr Ile Thr Pro Asn Val Ser Val Gly Lys
145                 150                 155                 160

Leu Cys Pro Glu Ser Val Ser Arg Asp Lys Asp Glu Val Tyr Lys Tyr
                165                 170                 175

Gln Tyr Asp Pro Leu Val Asn His Glu Lys Ile Lys Ala Gly Phe Ala
            180                 185                 190

Ser Gln Val Leu Lys Ala Thr Asn Lys Val Arg Lys Ile Ile Pro Lys
```

```
        195                 200                 205

Ile Asn Thr Pro Thr Leu Ile Leu Gln Gly Thr Asn Asn Glu Ile Ser
    210                 215                 220

Asp Val Ser Gly Ala Tyr Tyr Phe Met Gln His Ala Asn Cys Asn Arg
225                 230                 235                 240

Glu Ile Lys Ile Tyr Glu Gly Ala Lys His His Leu His Lys Glu Thr
                245                 250                 255

Asp Glu Val Lys Lys Ser Val Met Lys Glu Ile Glu Thr Trp Ile Phe
            260                 265                 270

Asn Arg Val Lys Leu
        275


<210> 85
<211> 276
<212> PRT
<213> Monkeypox virus

<400> 85
Met Ser Ala Asn Cys Met Phe Asn Leu Asp Asn Asp Tyr Ile Tyr Cys
  1               5                  10                  15

Lys Tyr Trp Lys Pro Ile Thr Tyr Pro Lys Ala Leu Val Phe Ile Ser
            20                  25                  30

His Gly Ala Gly Glu His Ser Gly Arg Tyr Asp Glu Leu Ala Glu Asn
        35                  40                  45

Ile Ser Ser Leu Gly Ile Leu Val Phe Ser His Asp His Ile Gly His
    50                  55                  60

Gly Arg Ser Asn Gly Glu Lys Met Met Ile Asp Asp Phe Gly Lys Tyr
65                  70                  75                  80

Val Arg Asp Val Val Gln His Val Val Thr Ile Lys Ser Thr Tyr Pro
                85                  90                  95

Gly Val Pro Val Phe Leu Leu Gly His Ser Met Gly Ala Thr Ile Ser
            100                 105                 110

Ile Leu Ala Ala Cys Asp Asn Pro Asn Leu Phe Thr Ala Met Ile Leu
        115                 120                 125

Met Ser Pro Leu Val Asn Ala Asp Ala Val Pro Arg Leu Asn Leu Leu
    130                 135                 140

Ala Ala Lys Leu Met Gly Thr Ile Thr Pro Asn Ala Ser Val Gly Lys
145                 150                 155                 160

Leu Cys Pro Glu Ser Val Ser Arg Asp Met Asp Glu Val Tyr Lys Tyr
                165                 170                 175

Gln Tyr Asp Pro Leu Val Asn His Glu Lys Ile Lys Ala Gly Phe Ala
            180                 185                 190

Ser Gln Val Leu Lys Ala Thr Asn Lys Val Arg Lys Ile Ile Pro Lys
        195                 200                 205
```

```
Ile Asp Thr Pro Thr Leu Ile Leu Gln Gly Thr Asn Asn Glu Ile Ser
    210                 215                 220

Asp Val Ser Gly Ala Tyr Tyr Phe Met Gln His Ala Asn Cys Asn Arg
225                 230                 235                 240

Glu Ile Lys Ile Tyr Glu Gly Ala Lys His His Leu His Lys Glu Thr
                245                 250                 255

Asp Glu Val Lys Lys Ser Val Met Lys Glu Ile Glu Thr Trp Ile Phe
            260                 265                 270

Asn Arg Val Lys
        275


<210> 86
<211> 312
<212> PRT
<213> Homo sapiens

<400> 86
Met Arg Met Leu Leu Ala Leu Leu Ala Leu Ser Ala Ala Arg Pro Ser
  1               5                  10                  15

Ala Ser Ala Glu Ser His Trp Cys Tyr Glu Val Gln Ala Glu Ser Ser
             20                  25                  30

Asn Tyr Pro Cys Leu Val Pro Val Lys Trp Gly Gly Asn Cys Gln Lys
         35                  40                  45

Asp Arg Gln Ser Pro Ile Asn Ile Val Thr Thr Lys Ala Lys Val Asp
     50                  55                  60

Lys Lys Leu Gly Arg Phe Phe Phe Ser Gly Tyr Asp Lys Lys Gln Thr
 65                  70                  75                  80

Trp Thr Val Gln Asn Asn Gly His Ser Val Met Met Leu Leu Glu Asn
                85                  90                  95

Lys Ala Ser Ile Ser Gly Gly Gly Leu Pro Ala Pro Tyr Gln Ala Lys
            100                 105                 110

Gln Leu His Leu His Trp Ser Asp Leu Pro Tyr Lys Gly Ser Glu His
        115                 120                 125

Ser Leu Asp Gly Glu His Phe Ala Met Glu Met His Ile Val His Glu
    130                 135                 140

Lys Glu Lys Gly Thr Ser Arg Asn Val Lys Glu Ala Gln Asp Pro Glu
145                 150                 155                 160

Asp Glu Ile Ala Val Leu Ala Phe Leu Val Glu Ala Gly Thr Gln Val
                165                 170                 175

Asn Glu Gly Phe Gln Pro Leu Val Glu Ala Leu Ser Asn Ile Pro Lys
            180                 185                 190

Pro Glu Met Ser Thr Thr Met Ala Glu Ser Ser Leu Leu Asp Leu Leu
        195                 200                 205
```

```
Pro Lys Glu Glu Lys Leu Arg His Tyr Phe Arg Tyr Leu Gly Ser Leu
    210                 215                 220

Thr Thr Pro Thr Cys Asp Glu Lys Val Val Trp Thr Val Phe Arg Glu
225                 230                 235                 240

Pro Ile Gln Leu His Arg Glu Gln Ile Leu Ala Phe Ser Gln Lys Leu
                245                 250                 255

Tyr Tyr Asp Lys Glu Gln Thr Val Ser Met Lys Asp Asn Val Arg Pro
            260                 265                 270

Leu Gln Gln Leu Gly Gln Arg Thr Val Ile Lys Ser Gly Ala Pro Gly
        275                 280                 285

Arg Pro Leu Pro Trp Ala Leu Pro Ala Leu Leu Gly Pro Met Leu Ala
    290                 295                 300

Cys Leu Leu Ala Gly Phe Leu Arg
305                 310


<210> 87
<211> 294
<212> PRT
<213> Homo sapiens

<400> 87
Met Arg Met Leu Leu Ala Leu Leu Ala Leu Ser Ala Ala Arg Pro Ser
  1               5                  10                  15

Ala Ser Ala Val Pro Val Lys Trp Gly Gly Asn Cys Gln Lys Asp Arg
             20                  25                  30

Gln Ser Pro Ile Asn Ile Val Thr Thr Lys Ala Lys Val Asp Lys Lys
         35                  40                  45

Leu Gly Arg Phe Phe Phe Ser Gly Tyr Asp Lys Lys Gln Thr Trp Thr
     50                  55                  60

Val Gln Asn Asn Gly His Ser Val Met Met Leu Leu Glu Asn Lys Ala
 65                  70                  75                  80

Ser Ile Ser Gly Gly Gly Leu Pro Ala Pro Tyr Gln Ala Lys Gln Leu
                 85                  90                  95

His Leu His Trp Ser Asp Leu Pro Tyr Lys Gly Ser Glu His Ser Leu
            100                 105                 110

Asp Gly Glu His Phe Ala Met Glu Met His Ile Val His Glu Lys Glu
        115                 120                 125

Lys Gly Thr Ser Arg Asn Val Lys Glu Ala Gln Asp Pro Glu Asp Glu
    130                 135                 140

Ile Ala Val Leu Ala Phe Leu Val Glu Ala Gly Thr Gln Val Asn Glu
145                 150                 155                 160

Gly Phe Gln Pro Leu Val Glu Ala Leu Ser Asn Ile Pro Lys Pro Glu
                165                 170                 175

Met Ser Thr Thr Met Ala Glu Ser Ser Leu Leu Asp Leu Leu Pro Lys
```

```
            180                 185                 190

Glu Glu Lys Leu Arg His Tyr Phe Arg Tyr Leu Gly Ser Leu Thr Thr
        195                 200                 205

Pro Thr Cys Asp Glu Lys Val Val Trp Thr Val Phe Arg Glu Pro Ile
    210                 215                 220

Gln Leu His Arg Glu Gln Ile Leu Ala Phe Ser Gln Lys Leu Tyr Tyr
225                 230                 235                 240

Asp Lys Glu Gln Thr Val Ser Met Lys Asp Asn Val Arg Pro Leu Gln
                245                 250                 255

Gln Leu Gly Gln Arg Thr Val Ile Lys Ser Gly Ala Pro Gly Arg Pro
            260                 265                 270

Leu Pro Trp Ala Leu Pro Ala Leu Leu Gly Pro Met Leu Ala Cys Leu
        275                 280                 285

Leu Ala Gly Phe Leu Arg
    290


<210> 88
<211> 266
<212> PRT
<213> Homo sapiens

<400> 88
Ala Glu Ser His Trp Cys Tyr Glu Val Gln Ala Glu Ser Ser Asn Tyr
  1               5                  10                  15

Pro Cys Leu Val Pro Val Lys Trp Gly Gly Asn Cys Gln Lys Asp Arg
             20                  25                  30

Gln Ser Pro Ile Asn Ile Val Thr Thr Lys Ala Lys Val Asp Lys Lys
         35                  40                  45

Leu Gly Arg Phe Phe Phe Ser Gly Tyr Asp Lys Lys Gln Thr Trp Thr
     50                  55                  60

Val Gln Asn Asn Gly His Ser Val Met Met Leu Leu Glu Asn Lys Ala
 65                  70                  75                  80

Ser Ile Ser Gly Gly Gly Leu Pro Ala Pro Tyr Gln Ala Lys Gln Leu
                 85                  90                  95

His Leu His Trp Ser Asp Leu Pro Tyr Lys Gly Ser Glu His Ser Leu
            100                 105                 110

Asp Gly Glu His Phe Ala Met Glu Met His Ile Val His Glu Lys Glu
        115                 120                 125

Lys Gly Thr Ser Arg Asn Val Lys Glu Ala Gln Asp Pro Glu Asp Glu
    130                 135                 140

Ile Ala Val Leu Ala Phe Leu Val Glu Ala Gly Thr Gln Val Asn Glu
145                 150                 155                 160

Gly Phe Gln Pro Leu Val Glu Ala Leu Ser Asn Ile Pro Lys Pro Glu
                165                 170                 175
```

```
Met Ser Thr Thr Met Ala Glu Ser Ser Leu Leu Asp Leu Leu Pro Lys
            180                 185                 190

Glu Glu Lys Leu Arg His Tyr Phe Arg Tyr Leu Gly Ser Leu Thr Thr
        195                 200                 205

Pro Thr Cys Asp Glu Lys Val Val Trp Thr Val Phe Arg Glu Pro Ile
    210                 215                 220

Gln Leu His Arg Glu Gln Ile Leu Ala Phe Ser Gln Lys Leu Tyr Tyr
225                 230                 235                 240

Asp Lys Glu Gln Thr Val Ser Met Lys Asp Asn Val Arg Pro Leu Gln
                245                 250                 255

Gln Leu Gly Gln Arg Thr Val Ile Lys Ser
            260                 265
```

<210> 89
<211> 262
<212> PRT
<213> Homo sapiens

<400> 89

```
Ala Glu Ser His Trp Cys Tyr Glu Val Gln Ala Glu Ser Ser Asn Tyr
  1               5                  10                  15

Pro Cys Leu Val Pro Val Lys Trp Gly Gly Asn Cys Gln Lys Asp Arg
             20                  25                  30

Gln Ser Pro Ile Asn Ile Val Thr Thr Lys Ala Lys Val Asp Lys Lys
         35                  40                  45

Leu Gly Arg Phe Phe Phe Ser Gly Tyr Asp Lys Lys Gln Thr Trp Thr
     50                  55                  60

Val Gln Asn Asn Gly His Ser Val Met Met Leu Leu Glu Asn Lys Ala
 65                  70                  75                  80

Ser Ile Ser Gly Gly Gly Leu Pro Ala Pro Tyr Gln Ala Lys Gln Leu
                 85                  90                  95

His Leu His Trp Ser Asp Leu Pro Tyr Lys Gly Ser Glu His Ser Leu
            100                 105                 110

Asp Gly Glu His Phe Ala Met Glu Met His Ile Val His Glu Lys Glu
        115                 120                 125

Lys Gly Thr Ser Arg Asn Val Lys Glu Ala Gln Asp Pro Glu Asp Glu
    130                 135                 140

Ile Ala Val Leu Ala Phe Leu Val Glu Ala Gly Thr Gln Val Asn Glu
145                 150                 155                 160

Gly Phe Gln Pro Leu Val Glu Ala Leu Ser Asn Ile Pro Lys Pro Glu
                165                 170                 175

Met Ser Thr Thr Ser Ser Leu Leu Asp Leu Leu Pro Lys Glu Glu Lys
            180                 185                 190
```

```
Leu Arg His Tyr Phe Arg Tyr Leu Gly Ser Leu Thr Thr Pro Thr Cys
        195                 200                 205

Asp Glu Lys Val Val Trp Thr Val Phe Arg Glu Pro Ile Gln Leu His
    210                 215                 220

Arg Glu Gln Ile Leu Ala Phe Ser Gln Lys Leu Tyr Tyr Asp Lys Glu
225                 230                 235                 240

Gln Thr Val Ser Met Lys Asp Asn Val Arg Pro Leu Gln Gln Leu Gly
                245                 250                 255

Gln Arg Thr Val Ile Lys
            260


<210> 90
<211> 335
<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> (8)
<223> Where Xaa is any amino acid as defined in the
      specification

<220>
<221> VARIANT
<222> (235)
<223> Where Xaa is any amino acid as defined in the
      specification

<400> 90
Met Arg Met Leu Leu Ala Leu Xaa Ala Leu Ser Pro Ala Arg Pro Ser
  1               5                  10                  15

Ala Ser Ala Glu Ser His Trp Cys Tyr Glu Val Gln Ala Glu Ser Ser
             20                  25                  30

Asn Tyr Pro Cys Leu Val Pro Val Lys Trp Gly Gly Asn Cys Gln Lys
         35                  40                  45

Asp Arg Gln Ser Pro Ile Asn Ile Val Thr Thr Lys Ala Lys Val Asp
     50                  55                  60

Lys Lys Leu Gly Arg Phe Phe Phe Ser Gly Tyr Asp Lys Lys Gln Thr
 65                  70                  75                  80

Trp Thr Val Gln Asn Asn Gly His Ser Val Met Met Leu Leu Glu Asn
                85                  90                  95

Lys Ala Ser Ile Ser Gly Gly Gly Leu Pro Ala Pro Tyr Gln Ala Lys
            100                 105                 110

Gln Leu His Leu His Trp Ser Asp Leu Pro Tyr Lys Gly Ser Glu His
        115                 120                 125

Ser Leu Asp Gly Glu His Phe Ala Met Glu Met His Ile Val His Glu
    130                 135                 140

Lys Glu Lys Gly Thr Ser Arg Asn Val Lys Glu Ala Gln Asp Pro Glu
```

```
145                 150                 155                 160

Asp Glu Ile Ala Val Leu Ala Phe Leu Val Glu Ala Gly Thr Gln Val
                165                 170                 175

Asn Glu Gly Phe Gln Pro Leu Val Glu Ala Leu Ser Asn Ile Pro Lys
            180                 185                 190

Pro Glu Met Ser Thr Thr Met Ala Glu Ser Ser Leu Leu Asp Leu Leu
        195                 200                 205

Pro Lys Glu Glu Lys Leu Arg His Tyr Phe Arg Tyr Leu Gly Ser Leu
    210                 215                 220

Thr Thr Pro Thr Cys Asp Glu Lys Val Val Xaa Asp Cys Val Pro Gly
225                 230                 235                 240

Ala His Ser Ala Ser Gln Arg Thr Asp Pro Gly Ile Leu Ser Glu Ala
                245                 250                 255

Val Leu Arg Gln Gly Thr Asp Ser Glu His Glu Gly Gln Cys Gln Ala
            260                 265                 270

Pro Ala Ala Ala Gly Ala Ala His Gly Asp Lys Val Arg Gly Pro Gly
        275                 280                 285

Ser Ala Ala Ala Leu Gly Pro Ala Cys Pro Ala Gly Pro Pro Cys Trp
    290                 295                 300

Pro Ala Cys Trp Pro Ala Ser Cys Asn Asp Ala Ser Leu Leu His Ala
305                 310                 315                 320

Pro Ser Leu Leu Pro Gln Leu Ser Lys Phe Gln Ala Ser Gly Pro
                325                 330                 335


<210> 91
<211> 581
<212> PRT
<213> Homo sapiens

<400> 91
Met Gln Arg Pro Gly Pro Arg Leu Trp Leu Val Leu Gln Val Met Gly
  1               5                  10                  15

Ser Cys Ala Ala Ile Ser Ser Met Asp Met Glu Arg Pro Gly Asp Gly
             20                  25                  30

Lys Cys Gln Pro Ile Glu Ile Pro Met Cys Lys Asp Ile Gly Tyr Asn
         35                  40                  45

Met Thr Arg Met Pro Asn Leu Met Gly His Glu Asn Gln Arg Glu Ala
     50                  55                  60

Ala Ile Gln Leu His Glu Phe Ala Pro Leu Val Glu Tyr Gly Cys His
 65                  70                  75                  80

Gly His Leu Arg Phe Phe Leu Cys Ser Leu Tyr Ala Pro Met Cys Thr
                85                  90                  95

Glu Gln Val Ser Thr Pro Ile Pro Ala Cys Arg Val Met Cys Glu Gln
            100                 105                 110
```

```
Ala Arg Leu Lys Cys Ser Pro Ile Met Glu Gln Phe Asn Phe Lys Trp
        115                 120                 125

Pro Asp Ser Leu Asp Cys Arg Lys Leu Pro Asn Lys Asn Asp Pro Asn
    130                 135                 140

Tyr Leu Cys Met Glu Ala Pro Asn Asn Gly Ser Asp Glu Pro Thr Arg
145                 150                 155                 160

Gly Ser Gly Leu Phe Pro Pro Leu Phe Arg Pro Gln Arg Pro His Ser
                165                 170                 175

Ala Gln Glu His Pro Leu Lys Asp Gly Gly Pro Gly Arg Gly Gly Cys
            180                 185                 190

Asp Asn Pro Gly Lys Phe His His Val Glu Lys Ser Ala Ser Cys Ala
        195                 200                 205

Pro Leu Cys Thr Pro Gly Val Asp Val Tyr Trp Ser Arg Glu Asp Lys
    210                 215                 220

Arg Phe Ala Val Val Trp Leu Ala Ile Trp Ala Val Leu Cys Phe Phe
225                 230                 235                 240

Ser Ser Ala Phe Thr Val Leu Thr Phe Leu Ile Asp Pro Ala Arg Phe
                245                 250                 255

Arg Tyr Pro Glu Arg Pro Ile Ile Phe Leu Ser Met Cys Tyr Cys Val
            260                 265                 270

Tyr Ser Val Gly Tyr Leu Ile Arg Leu Phe Ala Gly Ala Glu Ser Ile
        275                 280                 285

Ala Cys Asp Arg Asp Ser Gly Gln Leu Tyr Val Ile Gln Glu Gly Leu
    290                 295                 300

Glu Ser Thr Gly Cys Thr Leu Val Phe Leu Val Leu Tyr Tyr Phe Gly
305                 310                 315                 320

Met Ala Ser Ser Leu Trp Trp Val Val Leu Thr Leu Thr Trp Phe Leu
                325                 330                 335

Ala Ala Gly Lys Lys Trp Gly His Glu Ala Ile Glu Ala Asn Ser Ser
            340                 345                 350

Tyr Phe His Leu Ala Ala Trp Ala Ile Pro Ala Val Lys Thr Ile Leu
        355                 360                 365

Ile Leu Val Met Arg Arg Val Ala Gly Asp Glu Leu Thr Gly Val Cys
    370                 375                 380

Tyr Val Gly Ser Met Asp Val Asn Ala Leu Thr Gly Phe Val Leu Ile
385                 390                 395                 400

Pro Leu Ala Cys Tyr Leu Val Ile Gly Thr Ser Phe Ile Leu Ser Gly
                405                 410                 415

Phe Val Ala Leu Phe His Ile Arg Arg Val Met Lys Thr Gly Gly Glu
            420                 425                 430

Asn Thr Asp Lys Leu Glu Lys Leu Met Val Arg Ile Gly Leu Phe Ser
```

```
        435                 440                 445

Val Leu Tyr Thr Val Pro Ala Thr Cys Val Ile Ala Cys Tyr Phe Tyr
    450                 455                 460

Glu Arg Leu Asn Met Asp Tyr Trp Lys Ile Leu Ala Ala Gln His Lys
465                 470                 475                 480

Cys Lys Met Asn Asn Gln Thr Lys Thr Leu Asp Cys Leu Met Ala Ala
                485                 490                 495

Ser Ile Pro Ala Val Glu Ile Phe Met Val Lys Ile Phe Met Leu Leu
            500                 505                 510

Val Val Gly Ile Thr Ser Gly Met Trp Ile Trp Thr Ser Lys Thr Leu
        515                 520                 525

Gln Ser Trp Gln Gln Val Cys Ser Arg Arg Leu Lys Lys Lys Ser Arg
    530                 535                 540

Arg Lys Pro Ala Ser Val Ile Thr Ser Gly Gly Ile Tyr Lys Lys Ala
545                 550                 555                 560

Gln His Pro Gln Lys Thr His His Gly Lys Tyr Glu Ile Pro Ala Gln
                565                 570                 575

Ser Pro Thr Cys Val
            580


<210> 92
<211> 585
<212> PRT
<213> Gallus gallus

<400> 92
Met Gly Pro Ala Ala Gly Asn Leu Val Arg Ala Val Leu Ala Leu Cys
  1               5                  10                  15

Trp Leu Ala Glu His Cys Ala Gly Ile Ser Ser Ile Asp Ile Glu Arg
             20                  25                  30

Pro Gly Asp Gly Arg Cys Gln Pro Ile Glu Ile Pro Met Cys Lys Asp
         35                  40                  45

Ile Gly Tyr Asn Met Thr Arg Met Pro Asn Leu Met Gly His Glu Asn
     50                  55                  60

Gln Arg Glu Ala Ala Ile Gln Leu His Glu Phe Ala Pro Leu Val Glu
 65                  70                  75                  80

Tyr Gly Cys His Gly His Leu Lys Phe Phe Leu Cys Ser Leu Tyr Ala
                 85                  90                  95

Pro Met Cys Thr Glu Gln Val Ser Thr Pro Ile Pro Ala Cys Arg Val
            100                 105                 110

Met Cys Glu Gln Ala Arg Leu Lys Cys Ser Pro Ile Met Glu Gln Phe
        115                 120                 125

Asn Phe Lys Trp Pro Asp Ser Leu Asp Cys Ser Lys Leu Pro Asn Lys
    130                 135                 140
```

```
Asn Asp Pro Asn Tyr Leu Cys Met Glu Ala Pro Asn Asn Gly Ser Asp
145                 150                 155                 160

Glu Pro Pro Arg Gly Ser Ser Met Leu Pro Pro Met Phe Arg Pro Gln
                165                 170                 175

Arg Pro Ser Thr Gly His Asp Leu Gln Gln His Lys Asp Ser Leu Ser
            180                 185                 190

Arg Thr Ser Cys Glu Asn Pro Gly Lys Phe His His Val Glu Lys Ser
        195                 200                 205

Ala Ser Cys Ala Pro Leu Cys Thr Pro Gly Val Asp Val Tyr Trp Ser
    210                 215                 220

Lys Asp Asp Lys Gln Phe Ala Val Ile Trp Ile Ala Ile Trp Ser Ile
225                 230                 235                 240

Leu Cys Phe Phe Ser Ser Ala Phe Thr Val Leu Thr Phe Leu Ile Asp
                245                 250                 255

Pro Gln Arg Phe Lys Tyr Pro Glu Arg Pro Ile Ile Phe Leu Ser Met
            260                 265                 270

Cys Tyr Cys Val Tyr Ser Val Gly Tyr Ile Ile Arg Leu Phe Ser Gly
        275                 280                 285

Ala Glu Ser Ile Ala Cys Asp Arg Asp Ser Gly Gln Leu Tyr Val Ile
    290                 295                 300

Gln Glu Gly Leu Glu Ser Thr Gly Cys Thr Ile Val Phe Leu Val Leu
305                 310                 315                 320

Tyr Tyr Phe Gly Met Ala Ser Ser Leu Trp Trp Val Ile Leu Thr Leu
                325                 330                 335

Thr Trp Phe Leu Ala Ala Gly Lys Lys Trp Gly His Glu Ala Ile Glu
            340                 345                 350

Ala Asn Ser Ser Tyr Phe His Leu Ala Ala Trp Ala Ile Pro Ala Val
        355                 360                 365

Lys Thr Ile Met Ile Leu Val Met Arg Arg Val Ala Gly Asp Glu Leu
    370                 375                 380

Thr Gly Leu Cys Tyr Val Gly Ser Met Asp Val Asn Ala Leu Thr Gly
385                 390                 395                 400

Phe Val Leu Ile Pro Leu Ala Cys Tyr Leu Ile Ile Gly Thr Ser Phe
                405                 410                 415

Ile Leu Ser Gly Phe Val Ala Leu Phe His Ile Arg Arg Val Met Lys
            420                 425                 430

Thr Gly Gly Glu Asn Thr Asp Lys Leu Glu Lys Leu Met Val Arg Ile
        435                 440                 445

Gly Val Phe Ser Val Leu Tyr Thr Val Pro Ala Thr Cys Val Ile Ala
    450                 455                 460

Cys Tyr Phe Tyr Glu Arg Leu Asn Met Asp Tyr Trp Lys Ile Val Ala
```

```
465                 470                 475                 480

Ser Gln Gln Lys Cys Lys Met Asn Asn Gln Thr Lys Asn Leu Asp Cys
                485                 490                 495

Met Met Asn Asn Ser Ile Pro Ala Val Glu Ile Phe Met Val Lys Ile
            500                 505                 510

Phe Met Leu Leu Val Val Gly Ile Thr Ser Gly Met Trp Ile Trp Thr
        515                 520                 525

Ser Lys Thr Leu Gln Ser Trp Gln Asn Val Cys Ser Arg Arg Leu Lys
    530                 535                 540

Lys Arg Ser Arg Arg Lys Pro Ala Ser Val Ile Thr Ser Ser Gly Ile
545                 550                 555                 560

Tyr Lys Lys Pro Gln His Pro Gln Lys Thr His Leu Ala Lys Tyr Glu
                565                 570                 575

Ser Thr Leu Gln Pro Pro Thr Cys Val
            580                 585
```

<210> 93
<211> 586
<212> PRT
<213> Xenopus laevis

<400> 93

```
Met Asp Val Ser Gly Val Thr Gly Leu Leu Arg Gly Thr Ala Leu Leu
  1               5                  10                  15

Leu Val Leu Ala Ala Ala Leu Cys Ser Ala Ile Ser Ser Ile Asn Pro
             20                  25                  30

Asp Arg Ser Gly Asp Gly Arg Cys Gln Ala Ile Glu Ile Pro Met Cys
         35                  40                  45

Lys Asp Ile Gly Tyr Asn Met Thr Arg Met Pro Asn Leu Met Gly His
     50                  55                  60

Glu Asn Gln Lys Glu Ala Ala Ile Gln Leu His Glu Phe Ala Pro Leu
 65                  70                  75                  80

Val Glu Tyr Gly Cys His Ser His Leu Lys Phe Phe Leu Cys Ser Leu
                 85                  90                  95

Tyr Ala Pro Met Cys Thr Glu Gln Val Ser Thr Pro Ile Pro Ala Cys
            100                 105                 110

Arg Val Met Cys Glu Gln Ala Arg Leu Lys Cys Ser Pro Ile Met Glu
        115                 120                 125

Gln Phe Asn Phe Lys Trp Pro Asp Ser Leu Asp Cys Ser Lys Leu Pro
    130                 135                 140

Asn Lys Asn Asp Pro Asn Tyr Leu Cys Met Glu Ala Pro Asn Asn Gly
145                 150                 155                 160

Thr Asp Glu Thr Pro Arg Gly Ser Ser Met Leu Pro Pro Ile Phe Arg
                165                 170                 175
```

```
Pro Gln Arg Pro Ser Ser Gly His Glu Ile Tyr Pro Lys Asp Pro Thr
            180                 185                 190

Ser Arg Ser Ser Cys Glu Asn Ser Gly Lys Phe His His Val Glu Lys
        195                 200                 205

Ser Ala Ser Cys Ala Pro Leu Cys Ser Ser Ser Val Asp Val Tyr Trp
    210                 215                 220

Ser Lys Asp Asp Lys Lys Phe Ala Phe Ile Trp Ile Ala Ile Trp Ser
225                 230                 235                 240

Ile Leu Cys Phe Phe Ser Ser Ala Phe Thr Val Leu Thr Phe Leu Val
                245                 250                 255

Asp Pro Leu Arg Phe Lys Tyr Pro Glu Arg Pro Ile Ile Phe Leu Ser
            260                 265                 270

Met Cys Tyr Cys Val Tyr Ser Val Gly Tyr Ile Ile Arg Leu Phe Ala
        275                 280                 285

Gly Ala Asp Ser Ile Ala Cys Asp Arg Asp Ser Gly Gln Leu Tyr Val
    290                 295                 300

Ile Gln Glu Gly Leu Glu Ser Thr Gly Cys Thr Ile Val Phe Leu Ile
305                 310                 315                 320

Leu Tyr Tyr Phe Gly Met Ala Ser Ser Leu Trp Trp Val Ile Leu Thr
                325                 330                 335

Leu Thr Trp Phe Leu Ala Ala Gly Lys Lys Trp Gly His Glu Ala Ile
            340                 345                 350

Glu Ala Asn Ser Ser Tyr Phe His Leu Ala Ala Trp Ala Ile Pro Ala
        355                 360                 365

Val Lys Thr Ile Met Ile Leu Val Met Arg Arg Val Ala Gly Asp Glu
    370                 375                 380

Leu Thr Gly Val Cys Tyr Val Gly Ser Met Asp Val Asn Ala Leu Thr
385                 390                 395                 400

Gly Phe Val Leu Ile Pro Leu Ala Cys Tyr Leu Ile Ile Gly Thr Ser
                405                 410                 415

Phe Ile Leu Ser Gly Phe Val Ala Leu Phe His Ile Arg Arg Val Met
            420                 425                 430

Lys Thr Gly Gly Glu Asn Thr Asp Lys Leu Glu Lys Leu Met Val Arg
        435                 440                 445

Ile Gly Val Phe Ser Val Leu Tyr Thr Val Pro Ala Thr Cys Val Ile
    450                 455                 460

Ala Cys Tyr Phe Tyr Glu Arg Leu Asn Met Asp Phe Trp Lys Ile Leu
465                 470                 475                 480

Ala Thr Gln Asp Lys Cys Lys Met Asp Ser Gln Thr Lys Thr Leu Asp
                485                 490                 495

Cys Thr Met Thr Ser Ser Ile Pro Ala Val Glu Ile Phe Met Val Lys
```

```
            500                 505                 510

Ile Phe Met Leu Leu Val Val Gly Ile Thr Ser Gly Met Trp Ile Trp
        515                 520                 525

Thr Ser Lys Thr Val Gln Ser Trp Gln Asn Val Phe Ser Lys Arg Leu
    530                 535                 540

Lys Lys Arg Asn Arg Ser Lys Pro Ala Ser Val Ile Thr Ser Ala Gly
545                 550                 555                 560

Ile Tyr Lys Lys Pro Gln His Pro Pro Lys Val His His Gly Lys Tyr
                565                 570                 575

Glu Ser Ala Leu Gln Ser Pro Thr Cys Val
            580                 585


<210> 94
<211> 530
<212> PRT
<213> Xenopus laevis

<400> 94
Met Glu Pro Arg Val Val Thr Ala Leu Leu Leu Ser Leu Ala Ala Ala
  1               5                  10                  15

Leu Cys Ser Gly Ile Ser Ser Ile Asn Pro Asp Arg Ser Gly Glu Gly
             20                  25                  30

Arg Cys Gln Ala Ile Glu Ile Pro Met Cys Lys Asp Ile Gly Tyr Asn
         35                  40                  45

Met Thr Arg Met Pro Asn Leu Met Gly His Glu Asn Gln Lys Glu Ala
     50                  55                  60

Ala Ile Gln Leu His Glu Phe Ala Pro Leu Val Glu Tyr Gly Cys His
 65                  70                  75                  80

Ser His Leu Lys Phe Phe Leu Cys Ser Leu Tyr Ala Pro Met Cys Thr
                85                  90                  95

Glu Gln Val Ser Thr Pro Ile Pro Ala Cys Arg Val Met Cys Glu Gln
            100                 105                 110

Ala Arg Leu Lys Cys Ser Pro Ile Met Glu Gln Phe Asn Phe Lys Trp
        115                 120                 125

Pro Asp Ser Leu Asp Cys Ser Lys Leu Pro Asn Lys Asn Asp Pro Asn
    130                 135                 140

Tyr Leu Cys Met Glu Ala Pro Asn Asn Gly Thr Asp Glu Ala Pro Arg
145                 150                 155                 160

Ser Ser Ser Ile Leu Pro Pro Ile Phe Arg Pro Gln Arg Pro Asn Ser
                165                 170                 175

Gly His Glu Met Tyr Pro Lys Asp Pro Lys Gly Arg Ser Ser Cys Glu
            180                 185                 190

Asn Ser Gly Lys Phe His His Val Glu Lys Ser Ala Ser Cys Ala Pro
        195                 200                 205
```

```
Leu Cys Ser Ser Ser Val Asp Val Tyr Trp Ser Lys Asn Asp Lys Lys
    210                 215                 220

Phe Ala Phe Ile Trp Ile Ala Ile Trp Ser Leu Leu Cys Phe Phe Ser
225                 230                 235                 240

Ser Ala Phe Thr Val Leu Thr Phe Leu Val Asp Pro Leu Arg Phe Lys
                245                 250                 255

Tyr Pro Glu Arg Pro Ile Ile Phe Leu Ser Met Cys Tyr Cys Val Tyr
            260                 265                 270

Ser Val Gly Tyr Ile Ile Arg Leu Phe Ala Gly Ala Asp Ser Ile Ala
        275                 280                 285

Cys Asp Arg Asp Ser Gly Gln Leu Tyr Val Ile Gln Glu Gly Leu Glu
    290                 295                 300

Ser Thr Gly Cys Thr Ile Val Phe Leu Ile Leu Tyr Tyr Phe Gly Met
305                 310                 315                 320

Ala Ser Ser Leu Trp Trp Val Ile Leu Thr Leu Thr Trp Phe Leu Ala
                325                 330                 335

Ala Gly Lys Lys Trp Gly His Glu Ala Ile Glu Ala Asn Ser Ser Tyr
            340                 345                 350

Phe His Leu Ala Ala Trp Ala Ile Pro Ala Val Lys Thr Ile Met Ile
        355                 360                 365

Leu Val Met Arg Arg Val Ala Gly Asp Glu Leu Thr Gly Val Cys Tyr
    370                 375                 380

Val Gly Ser Met Asp Val Asn Ala Leu Thr Gly Phe Val Leu Ile Pro
385                 390                 395                 400

Leu Ala Cys Tyr Leu Ile Ile Gly Thr Ser Phe Ile Leu Ser Gly Phe
                405                 410                 415

Val Ala Leu Phe His Ile Arg Arg Val Met Lys Thr Gly Gly Glu Asn
            420                 425                 430

Thr Asp Lys Leu Glu Lys Leu Met Val Arg Ile Gly Val Phe Ser Val
        435                 440                 445

Leu Tyr Thr Val Pro Ala Thr Cys Val Ile Ala Cys Tyr Phe Tyr Glu
    450                 455                 460

Arg Leu Asn Met Asp Phe Trp Lys Ile Leu Ala Thr Gln Asp Lys Cys
465                 470                 475                 480

Lys Met Asp Ser Gln Thr Lys Thr Leu Asp Cys Thr Met Asn Lys Pro
                485                 490                 495

Ala Ser Val Ile Thr Ser Ala Gly Ile Tyr Lys Lys Pro Gln Gln Pro
            500                 505                 510

Pro Lys Ile His His Gly Lys Tyr Glu Ser Ala Leu Arg Ser Pro Thr
        515                 520                 525

Cys Val
```

530

<210> 95
<211> 580
<212> PRT
<213> Danio rerio

<400> 95
Met Phe Ala Ala Gly Val Gly Ile Ser Leu Gly Leu Leu Cys Phe Ala
1 5 10 15

Gly Phe Cys Ser Ala Ile Ser Ser Ile Asp Pro Asp Arg Pro Gly Glu
20 25 30

Gly Arg Cys Gln Glu Ile Ala Ile Pro Leu Cys Lys Asp Ile Gly Tyr
35 40 45

Asn Leu Thr Val Met Pro Asn Leu Met Gly His Glu Asp Gln Asn Glu
50 55 60

Ala Ala Ile Lys Leu His Glu Phe Ala Pro Leu Ile Glu Phe Gly Cys
65 70 75 80

His Ser His Leu Lys Phe Phe Leu Cys Ser Leu Tyr Ala Pro Met Cys
85 90 95

Thr Glu Gln Val Ser Thr Pro Ile Pro Ala Cys Arg Val Met Cys Glu
100 105 110

Gln Ala Arg Gln Lys Cys Ser Pro Ile Met Glu Gln Phe Asn Phe His
115 120 125

Trp Pro Glu Ser Leu Asp Cys Ser Arg Leu Pro Asn Lys Asn Asp Pro
130 135 140

Asn Tyr Leu Cys Met Glu Ala Pro Asn Asn Gly Thr Asp Glu Pro Pro
145 150 155 160

Lys Gly Ser His Thr Gln Ser Pro Asp Ser Arg Pro Pro Arg Pro Gly
165 170 175

Asn Ser Gln Glu Leu Pro Ile Lys Glu Arg Val Gly Lys Thr Thr Cys
180 185 190

Ser Asn Pro Gly Lys Phe His Tyr Val Gln Lys Ser Glu Ser Cys Ala
195 200 205

Pro Lys Cys Tyr Ser Asn Val Asp Val Tyr Trp Ser Gln Gly Asp Lys
210 215 220

Arg Phe Ser Met Val Trp Ile Ala Ile Trp Ser Ile Leu Cys Phe Ile
225 230 235 240

Ser Ser Ala Phe Thr Val Leu Thr Phe Leu Ile Asp Pro Gln Arg Phe
245 250 255

Lys Tyr Pro Glu Arg Pro Ile Ile Phe Leu Ser Met Ser Tyr Cys Val
260 265 270

Tyr Ser Val Gly Phe Leu Val Arg Leu Phe Val Gly Val Glu Asn Val
275 280 285

```
Ala Cys Asp Arg Asp Thr Gly Val Gln Tyr Ile Ile Gln Glu Gly Leu
    290                 295                 300

Glu Ser Thr Gly Cys Thr Ile Val Phe Leu Ile Leu Tyr Tyr Phe Gly
305                 310                 315                 320

Met Ala Ser Ser Leu Trp Trp Val Ile Leu Thr Leu Thr Trp Phe Leu
                325                 330                 335

Ala Ala Gly Lys Lys Trp Gly His Glu Ala Ile Glu Ala Asn Ser Ser
            340                 345                 350

Tyr Phe His Leu Ala Ala Trp Ala Ile Pro Ala Ile Lys Thr Ile Met
        355                 360                 365

Ile Leu Val Met Arg Lys Val Ala Gly Asp Glu Leu Thr Gly Val Cys
    370                 375                 380

Tyr Val Gly Ser Met Asp Val Lys Ala Leu Thr Gly Phe Val Leu Ile
385                 390                 395                 400

Pro Leu Ser Cys Tyr Leu Ile Ile Gly Thr Ser Phe Leu Leu Ser Gly
                405                 410                 415

Phe Val Ala Leu Phe His Ile Arg Lys Val Met Lys Thr Glu Gly Glu
            420                 425                 430

Asn Thr Asp Lys Leu Glu Lys Leu Met Val Arg Ile Gly Val Phe Ser
        435                 440                 445

Val Leu Tyr Thr Val Pro Ala Thr Cys Val Ile Ala Cys Tyr Phe Tyr
    450                 455                 460

Glu Arg Leu Asn Met Asp Tyr Trp Lys Ile Leu Ala Gly Glu Gln Lys
465                 470                 475                 480

Cys Ala Asp Asp Gly Lys Ser Gly Glu Glu Cys Val Met Lys Ser Ser
                485                 490                 495

Ile Pro Ala Val Glu Ile Phe Met Val Lys Ile Phe Met Leu Leu Val
            500                 505                 510

Val Gly Ile Thr Ser Gly Met Trp Ile Trp Thr Ser Lys Thr Leu Gln
        515                 520                 525

Ser Trp Gln Asn Val Phe Ser Arg Lys Leu Lys Lys Lys Thr Arg Arg
    530                 535                 540

Lys Ala Ala Cys Val Phe Thr Gly Ser Gly Pro Tyr Leu Lys Pro His
545                 550                 555                 560

Pro Ala Leu Lys Gly His Lys Thr Lys Tyr Glu Pro Ala Gly Pro Pro
                565                 570                 575

Ala Thr Cys Val
            580
```

<210> 96
<211> 346
<212> PRT

<213> Homo sapiens

<400> 96

```
Met Phe Leu Ser Ile Leu Val Ala Leu Cys Leu Trp Leu His Leu Ala
  1               5                  10                  15

Leu Gly Val Arg Gly Ala Pro Cys Glu Ala Val Arg Ile Pro Met Cys
             20                  25                  30

Arg His Met Pro Trp Asn Ile Thr Arg Met Pro Asn His Leu His His
         35                  40                  45

Ser Thr Gln Glu Asn Ala Ile Leu Ala Ile Glu Gln Tyr Glu Glu Leu
     50                  55                  60

Val Asp Val Asn Cys Ser Ala Val Leu Arg Phe Phe Phe Cys Ala Met
 65                  70                  75                  80

Tyr Ala Pro Ile Cys Thr Leu Glu Phe Leu His Asp Pro Ile Lys Pro
                 85                  90                  95

Cys Lys Ser Val Cys Gln Arg Ala Arg Asp Asp Cys Glu Pro Leu Met
            100                 105                 110

Lys Met Tyr Asn His Ser Trp Pro Glu Ser Leu Ala Cys Asp Glu Leu
        115                 120                 125

Pro Val Tyr Asp Arg Gly Val Cys Ile Ser Pro Glu Ala Ile Val Thr
    130                 135                 140

Asp Leu Pro Glu Asp Val Lys Trp Ile Asp Ile Thr Pro Asp Met Met
145                 150                 155                 160

Val Gln Glu Arg Pro Leu Asp Val Asp Cys Lys Arg Leu Ser Pro Asp
                165                 170                 175

Arg Cys Lys Cys Lys Lys Val Lys Pro Thr Leu Ala Thr Tyr Leu Ser
            180                 185                 190

Lys Asn Tyr Ser Tyr Val Ile His Ala Lys Ile Lys Ala Val Gln Arg
        195                 200                 205

Ser Gly Cys Asn Glu Val Thr Thr Val Val Asp Val Lys Glu Ile Phe
    210                 215                 220

Lys Ser Ser Ser Pro Ile Pro Arg Thr Gln Val Pro Leu Ile Thr Asn
225                 230                 235                 240

Ser Ser Cys Gln Cys Pro His Ile Leu Pro His Gln Asp Val Leu Ile
                245                 250                 255

Met Cys Tyr Glu Trp Arg Ser Arg Met Met Leu Leu Glu Asn Cys Leu
            260                 265                 270

Val Glu Lys Trp Arg Asp Gln Leu Ser Lys Arg Ser Ile Gln Trp Glu
        275                 280                 285

Glu Arg Leu Gln Glu Gln Arg Arg Thr Val Gln Asp Lys Lys Lys Thr
    290                 295                 300

Ala Gly Arg Thr Ser Arg Ser Asn Pro Pro Lys Pro Lys Gly Lys Pro
305                 310                 315                 320
```

```
Pro Ala Pro Lys Pro Ala Ser Pro Lys Lys Asn Ile Lys Thr Arg Ser
                325                 330                 335

Ala Gln Lys Arg Thr Asn Pro Lys Arg Val
            340                 345


<210> 97
<211> 346
<212> PRT
<213> Homo sapiens

<400> 97
Met Phe Leu Ser Ile Leu Val Ala Leu Cys Leu Trp Leu His Leu Ala
  1               5                  10                  15

Leu Gly Val Arg Gly Ala Pro Cys Glu Ala Val Arg Ile Pro Met Cys
             20                  25                  30

Arg His Met Pro Trp Asn Ile Thr Arg Met Pro Asn His Leu His His
         35                  40                  45

Ser Thr Gln Glu Asn Ala Ile Leu Ala Ile Glu Gln Tyr Glu Glu Leu
     50                  55                  60

Val Asp Val Asn Cys Ser Ala Val Leu Arg Phe Phe Leu Cys Ala Met
 65                  70                  75                  80

Tyr Ala Pro Ile Cys Thr Leu Glu Phe Leu His Asp Pro Ile Lys Pro
                 85                  90                  95

Cys Lys Ser Val Cys Gln Arg Ala Arg Asp Asp Cys Glu Pro Leu Met
            100                 105                 110

Lys Met Tyr Asn His Ser Trp Pro Glu Ser Leu Ala Cys Asp Glu Leu
        115                 120                 125

Pro Val Tyr Asp Arg Gly Val Cys Ile Ser Pro Glu Ala Ile Val Thr
    130                 135                 140

Asp Leu Pro Glu Asp Val Lys Trp Ile Asp Ile Thr Pro Asp Met Met
145                 150                 155                 160

Val Gln Glu Arg Pro Leu Asp Val Asp Cys Lys Arg Leu Ser Pro Asp
                165                 170                 175

Arg Cys Lys Cys Lys Lys Val Lys Pro Thr Leu Ala Thr Tyr Leu Ser
            180                 185                 190

Lys Asn Tyr Ser Tyr Val Ile His Ala Lys Ile Lys Ala Val Gln Arg
        195                 200                 205

Ser Gly Cys Asn Glu Val Thr Thr Val Val Asp Val Lys Glu Ile Phe
    210                 215                 220

Lys Ser Ser Ser Pro Ile Pro Arg Thr Gln Val Pro Leu Ile Thr Asn
225                 230                 235                 240

Ser Ser Cys Gln Cys Pro His Ile Leu Pro His Gln Asp Val Leu Ile
                245                 250                 255
```

```
Met Cys Tyr Glu Trp Arg Ser Arg Met Met Leu Leu Glu Asn Cys Leu
            260                 265                 270

Val Glu Lys Trp Arg Asp Gln Leu Ser Lys Arg Ser Ile Gln Trp Glu
        275                 280                 285

Glu Arg Leu Gln Glu Gln Arg Arg Thr Val Gln Asp Lys Lys Lys Thr
    290                 295                 300

Ala Gly Arg Thr Ser Arg Ser Asn Pro Pro Lys Pro Lys Gly Lys Pro
305                 310                 315                 320

Pro Ala Pro Lys Pro Ala Ser Pro Lys Lys Asn Ile Lys Thr Arg Ser
                325                 330                 335

Ala Gln Lys Arg Thr Asn Pro Lys Arg Val
            340                 345
```

<210> 98
<211> 348
<212> PRT
<213> Rattus norvegicus

<400> 98

```
Met Leu Leu Ser Ile Leu Val Ala Leu Cys Leu Trp Leu Arg Leu Ala
  1               5                  10                  15

Leu Gly Val Arg Gly Ala Pro Cys Glu Ala Val Arg Ile Pro Met Cys
             20                  25                  30

Arg His Met Pro Trp Asn Ile Thr Arg Met Pro Asn His Leu His His
         35                  40                  45

Ser Thr Gln Glu Asn Ala Ile Leu Ala Ile Gly Gln Tyr Glu Glu Leu
     50                  55                  60

Val Asp Val Asn Cys Ser Ser Val Leu Ser Phe Phe Leu Cys Ala Met
 65                  70                  75                  80

Tyr Ala Pro Ile Cys Thr Leu Glu Phe Leu His Asp Pro Ile Lys Pro
                 85                  90                  95

Cys Lys Ser Val Cys Gln Arg Ala Arg Asp Asp Cys Glu Pro Leu Met
            100                 105                 110

Lys Met Tyr Asn His Ser Trp Pro Glu Ser Leu Ala Cys Asp Glu Leu
        115                 120                 125

Pro Val Tyr Asp Arg Gly Val Cys Ile Ser Pro Glu Ala Ile Val Thr
    130                 135                 140

Asp Leu Pro Glu Asp Val Lys Trp Ile Asp Ile Thr Pro Asp Met Met
145                 150                 155                 160

Val Gln Glu Arg Ser Phe Asp Ala Asp Cys Lys His Leu Ser Pro Asp
                165                 170                 175

Arg Cys Lys Cys Lys Lys Val Lys Pro Thr Leu Ala Thr Tyr Leu Ser
            180                 185                 190

Lys Asn Tyr Ser Tyr Val Ile His Ala Lys Ile Lys Ala Val Gln Arg
```

```
        195                 200                 205

Ser Gly Cys Asn Glu Val Thr Thr Val Val Asp Val Lys Glu Ile Phe
    210                 215                 220

Lys Ser Ser Ser Pro Ile Pro Arg Thr Gln Val Pro Leu Ile Thr Asn
225                 230                 235                 240

Ser Ser Cys Gln Cys Pro His Ile Leu Pro His Gln Asp Val Leu Ile
                245                 250                 255

Met Cys Tyr Glu Arg Arg Ser Arg Met Met Leu Leu Glu Asn Cys Leu
            260                 265                 270

Val Glu Lys Trp Arg Asp Gln Leu Ser Arg Arg Ser Thr Gln Trp Glu
        275                 280                 285

Glu Arg Leu Gln Glu Gln Gln Arg Thr Thr Gln Asp Lys Lys Gln Ile
    290                 295                 300

Ala Ser Arg Thr Ser Arg Ser Asn Pro Pro Lys Pro Lys Gly Arg Ser
305                 310                 315                 320

Pro Ala Ser Lys Pro Ala Ser Pro Lys Lys Asn Ile Lys Ala Arg Ser
                325                 330                 335

Ala Pro Lys Lys Ser Asn Pro Lys Lys Ser Thr Ser
            340                 345
```

<210> 99
<211> 348
<212> PRT
<213> Rattus norvegicus

<220>
<221> VARIANT
<222> (251)
<223> Where Xaa is any amino acid as defined in the specification

<400> 99

```
Met Leu Leu Ser Ile Leu Val Ala Leu Cys Leu Cys Val Arg Leu Ala
  1               5                  10                  15

Leu Gly Val Arg Gly Ala Pro Cys Glu Ala Val Arg Ile Pro Met Cys
            20                  25                  30

Arg His Met Pro Trp Asn Ile Thr Arg Met Pro Asn His Leu His His
        35                  40                  45

Ser Thr Gln Glu Asn Ala Ile Leu Ala Ile Glu Gln Tyr Glu Glu Leu
    50                  55                  60

Val Asp Val Asn Cys Ser Ser Val Leu Arg Phe Phe Leu Cys Ala Met
65                  70                  75                  80

Tyr Ala Pro Ile Cys Thr Leu Glu Phe Leu His Asp Pro Ile Lys Pro
                85                  90                  95

Cys Lys Ser Val Cys Gln Arg Ala Arg Asp Asp Cys Glu Pro Leu Met
            100                 105                 110
```

```
Lys Met Tyr Asn His Ser Trp Pro Glu Ser Leu Ala Cys Asp Glu Leu
        115                 120                 125

Pro Val Tyr Asp Arg Gly Val Cys Ile Ser Pro Glu Ala Ile Val Thr
    130                 135                 140

Asp Leu Pro Glu Asp Val Lys Trp Ile Asp Ile Thr Pro Asp Met Met
145                 150                 155                 160

Val Gln Glu Arg Ser Phe Asp Ala Asp Cys Lys His Leu Ser Pro Asp
                165                 170                 175

Arg Cys Lys Cys Lys Lys Val Lys Pro Thr Leu Ala Thr Tyr Leu Ser
            180                 185                 190

Lys Asn Tyr Ser Tyr Val Ile His Ala Lys Ile Lys Ala Val Gln Arg
        195                 200                 205

Ser Gly Cys Asn Glu Val Thr Thr Val Val Asp Val Lys Glu Ile Phe
    210                 215                 220

Lys Ser Ser Ser Pro Ile Pro Arg Thr Gln Val Pro Leu Ile Thr Asn
225                 230                 235                 240

Ser Ser Cys Gln Cys Pro His Ile Leu Pro Xaa Gln Asp Val Leu Ile
                245                 250                 255

Met Cys Tyr Glu Arg Arg Ser Arg Met Met Leu Leu Glu Asn Cys Leu
            260                 265                 270

Val Glu Lys Trp Arg Asp Gln Leu Ser Arg Arg Ser Thr Gln Trp Glu
        275                 280                 285

Glu Arg Leu Gln Glu Gln Gln Arg Thr Thr Gln Asp Lys Lys Gln Ile
    290                 295                 300

Ala Ser Arg Thr Ser Arg Ser Asn Pro Pro Lys Pro Lys Gly Arg Ser
305                 310                 315                 320

Pro Ala Ser Lys Pro Ala Ser Pro Lys Lys Asn Ile Lys Ala Arg Ser
                325                 330                 335

Ala Pro Lys Lys Ser Asn Pro Lys Lys Ser Thr Ser
            340                 345


<210> 100
<211> 351
<212> PRT
<213> Rattus norvegicus

<400> 100
Met Leu Arg Ser Ile Leu Val Ala Leu Cys Leu Trp Leu Arg Leu Ala
  1               5                  10                  15

Leu Gly Val Arg Gly Ala Pro Cys Glu Ala Val Arg Ile Pro Met Cys
             20                  25                  30

Arg His Met Pro Trp Asn Ile Thr Arg Met Pro Asn His Leu His His
         35                  40                  45
```

```
Ser Thr Gln Glu Asn Ala Ile Leu Ala Ile Glu Gln Tyr Glu Glu Leu
     50                  55                  60

Val Asp Val Asn Cys Ser Ser Val Leu Arg Phe Phe Leu Cys Ala Met
 65                  70                  75                  80

Tyr Ala Pro Ile Cys Thr Leu Glu Phe Leu His Asp Pro Ile Lys Pro
                85                  90                  95

Cys Lys Ser Val Cys Gln Arg Ala Arg Asp Asp Cys Glu Pro Leu Met
            100                 105                 110

Lys Met Tyr Asn His Ser Trp Pro Glu Ser Leu Ala Cys Asp Glu Leu
        115                 120                 125

Pro Val Tyr Asp Arg Gly Val Cys Ile Ser Pro Glu Ala Ile Val Thr
    130                 135                 140

Asp Leu Pro Glu Asp Val Lys Trp Ile Asp Ile Thr Pro Asp Met Met
145                 150                 155                 160

Val Gln Glu Arg Ser Phe Asp Ala Asp Cys Lys Arg Leu Ser Pro Asp
                165                 170                 175

Arg Cys Lys Cys Lys Lys Val Lys Pro Thr Leu Ala Thr Tyr Leu Ser
            180                 185                 190

Lys Asn Tyr Ser Tyr Val Ile His Ala Lys Ile Lys Ala Val Gln Arg
        195                 200                 205

Ser Gly Cys Asn Glu Val Thr Thr Val Val Asp Val Lys Glu Ile Phe
    210                 215                 220

Lys Ser Leu Ser Pro Ile Pro Arg Thr Gln Val Pro Leu Ile Thr Asn
225                 230                 235                 240

Ser Ser Cys Gln Cys Pro His Ile Leu Pro His Gln Asp Val Leu Ile
                245                 250                 255

Met Cys Tyr Glu Trp Arg Ser Arg Met Met Leu Leu Glu Asn Cys Leu
            260                 265                 270

Val Glu Lys Trp Arg Asp Gln Leu Ser Arg Arg Ser Ile Gln Trp Glu
        275                 280                 285

Glu Arg Leu Gln Glu Gln Gln Arg Thr Ile Gln Asp Lys Lys Gln Ile
    290                 295                 300

Ala Ser Arg Thr Ser Arg Thr Ser Arg Ser Asn Pro Pro Lys Ser Lys
305                 310                 315                 320

Gly Arg Pro Pro Ala Pro Lys Pro Ala Ser Pro Lys Lys Asn Ile Lys
                325                 330                 335

Ala Arg Ser Ala Pro Lys Lys Ser Asn Leu Lys Lys Ser Ala Ser
            340                 345                 350
```

<210> 101
<211> 752
<212> PRT
<213> Homo sapiens

<400> 101

```
Met Ala Arg Lys Leu Ser Val Ile Leu Ile Leu Thr Phe Ala Leu Ser
  1               5                  10                  15

Val Thr Asn Pro Leu His Glu Leu Lys Ala Ala Ala Phe Pro Gln Thr
             20                  25                  30

Thr Glu Lys Ile Ser Pro Asn Trp Glu Ser Gly Ile Asn Val Asp Leu
         35                  40                  45

Ala Ile Ser Thr Arg Gln Tyr His Leu Gln Gln Leu Phe Tyr Arg Tyr
     50                  55                  60

Gly Glu Asn Asn Ser Leu Ser Val Glu Gly Phe Arg Lys Leu Leu Gln
 65                  70                  75                  80

Asn Ile Gly Ile Asp Lys Ile Lys Arg Ile His Ile His His Asp His
                 85                  90                  95

Asp His His Ser Asp His Glu His His Ser Asp His Glu Arg His Ser
            100                 105                 110

Asp His Glu His His Ser Asp His Glu His His Ser Asp His Asn His
        115                 120                 125

Ala Ala Ser Gly Lys Asn Lys Arg Lys Ala Leu Cys Pro Asp His Asp
    130                 135                 140

Ser Asp Ser Ser Gly Lys Asp Pro Arg Asn Ser Gln Gly Lys Gly Ala
145                 150                 155                 160

His Arg Pro Glu His Ala Ser Gly Arg Arg Asn Val Lys Asp Ser Val
                165                 170                 175

Ser Ala Ser Glu Val Thr Ser Thr Val Tyr Asn Thr Val Ser Glu Gly
            180                 185                 190

Thr His Phe Leu Glu Thr Ile Glu Thr Pro Arg Pro Gly Lys Leu Phe
        195                 200                 205

Pro Lys Asp Val Ser Ser Ser Thr Pro Pro Ser Val Thr Ser Lys Ser
    210                 215                 220

Arg Val Ser Arg Leu Ala Gly Arg Lys Thr Asn Glu Ser Val Ser Glu
225                 230                 235                 240

Pro Arg Lys Gly Phe Met Tyr Ser Arg Asn Thr Asn Glu Asn Pro Gln
                245                 250                 255

Glu Cys Phe Asn Ala Ser Lys Leu Leu Thr Ser His Gly Met Gly Ile
            260                 265                 270

Gln Val Pro Leu Asn Ala Thr Glu Phe Asn Tyr Leu Cys Pro Ala Ile
        275                 280                 285

Ile Asn Gln Ile Asp Ala Arg Ser Cys Leu Ile His Thr Ser Glu Lys
    290                 295                 300

Lys Ala Glu Ile Pro Pro Lys Thr Tyr Ser Leu Gln Ile Ala Trp Val
305                 310                 315                 320
```

```
Gly Gly Phe Ile Ala Ile Ser Ile Ile Ser Phe Leu Ser Leu Leu Gly
                325                 330                 335

Val Ile Leu Val Pro Leu Met Asn Arg Val Phe Phe Lys Phe Leu Leu
            340                 345                 350

Ser Phe Leu Val Ala Leu Ala Val Gly Thr Leu Ser Gly Asp Ala Phe
        355                 360                 365

Leu His Leu Leu Pro His Ser His Ala Ser His His His Ser His Ser
    370                 375                 380

His Glu Glu Pro Ala Met Glu Met Lys Arg Gly Pro Leu Phe Ser His
385                 390                 395                 400

Leu Ser Ser Gln Asn Ile Glu Glu Ser Ala Tyr Phe Asp Ser Thr Trp
                405                 410                 415

Lys Gly Leu Thr Ala Leu Gly Gly Leu Tyr Phe Met Phe Leu Val Glu
            420                 425                 430

His Val Leu Thr Leu Ile Lys Gln Phe Lys Asp Lys Lys Lys Lys Asn
        435                 440                 445

Gln Lys Lys Pro Glu Asn Asp Asp Asp Val Glu Ile Lys Lys Gln Leu
    450                 455                 460

Ser Lys Tyr Glu Ser Gln Leu Ser Thr Asn Glu Glu Lys Val Asp Thr
465                 470                 475                 480

Asp Asp Arg Thr Glu Gly Tyr Leu Arg Ala Asp Ser Gln Glu Pro Ser
                485                 490                 495

His Phe Asp Ser Gln Gln Pro Ala Val Leu Glu Glu Glu Glu Val Met
            500                 505                 510

Ile Ala His Ala His Pro Gln Glu Val Tyr Asn Glu Tyr Val Pro Arg
        515                 520                 525

Gly Cys Lys Asn Lys Cys His Ser His Phe His Asp Thr Leu Gly Gln
    530                 535                 540

Ser Asp Asp Leu Ile His His His His Asp Tyr His His Ile Leu His
545                 550                 555                 560

His His His His Gln Asn His His Pro His Ser His Ser Gln Arg Tyr
                565                 570                 575

Ser Arg Glu Glu Leu Lys Asp Ala Gly Val Ala Thr Leu Ala Trp Met
            580                 585                 590

Val Ile Met Gly Asp Gly Leu His Asn Phe Ser Asp Gly Leu Ala Ile
        595                 600                 605

Gly Ala Ala Phe Thr Glu Gly Leu Ser Ser Gly Leu Ser Thr Ser Val
    610                 615                 620

Ala Val Phe Cys His Glu Leu Pro His Glu Leu Gly Asp Phe Ala Val
625                 630                 635                 640

Leu Leu Lys Ala Gly Met Thr Val Lys Gln Ala Val Leu Tyr Asn Ala
                645                 650                 655
```

```
Leu Ser Ala Met Leu Ala Tyr Leu Gly Met Ala Thr Gly Ile Phe Ile
            660                 665                 670

Gly His Tyr Ala Glu Asn Val Ser Met Trp Ile Phe Ala Leu Thr Ala
        675                 680                 685

Gly Leu Phe Met Tyr Val Ala Leu Val Asp Met Val Pro Glu Met Leu
    690                 695                 700

His Asn Asp Ala Ser Asp His Gly Cys Ser Arg Trp Gly Tyr Phe Phe
705                 710                 715                 720

Leu Gln Asn Ala Gly Met Leu Leu Gly Phe Gly Ile Met Leu Leu Ile
                725                 730                 735

Pro Tyr Leu Asn Ile Lys Ser Cys Ser Tyr Lys Phe Leu Val Lys Val
            740                 745                 750
```

<210> 102
<211> 755
<212> PRT
<213> Homo sapiens

<400> 102

```
Met Ala Arg Lys Leu Ser Val Ile Leu Ile Leu Thr Phe Ala Leu Ser
  1               5                  10                  15

Val Thr Asn Pro Leu His Glu Leu Lys Ala Ala Ala Phe Pro Gln Thr
             20                  25                  30

Thr Glu Lys Ile Ser Pro Asn Trp Glu Ser Gly Ile Asn Val Asp Leu
         35                  40                  45

Ala Ile Ser Thr Arg Gln Tyr His Leu Gln Gln Leu Phe Tyr Arg Tyr
     50                  55                  60

Gly Glu Asn Asn Ser Leu Ser Val Glu Gly Phe Arg Lys Leu Leu Gln
 65                  70                  75                  80

Asn Ile Gly Ile Asp Lys Ile Lys Arg Ile His Ile His His Asp His
                 85                  90                  95

Asp His His Ser Asp His Glu His His Ser Asp His Glu Arg His Ser
            100                 105                 110

Asp His Glu His His Ser Glu His Glu His His Ser Asp His Asp His
        115                 120                 125

His Ser His His Asn His Ala Ala Ser Gly Lys Asn Lys Arg Lys Ala
    130                 135                 140

Leu Cys Pro Asp His Asp Ser Asp Ser Ser Gly Lys Asp Pro Arg Asn
145                 150                 155                 160

Ser Gln Gly Lys Gly Ala His Arg Pro Glu His Ala Ser Gly Arg Arg
                165                 170                 175
```

```
Asn Val Lys Asp Ser Val Ser Ala Ser Glu Val Thr Ser Thr Val Tyr
            180                 185                 190

Asn Thr Val Ser Glu Gly Thr His Phe Leu Glu Thr Ile Glu Thr Pro
        195                 200                 205

Arg Pro Gly Lys Leu Phe Pro Lys Asp Val Ser Ser Ser Thr Pro Pro
    210                 215                 220

Ser Val Thr Ser Lys Ser Arg Val Ser Arg Leu Ala Gly Arg Lys Thr
225                 230                 235                 240

Asn Glu Ser Val Ser Glu Pro Arg Lys Gly Phe Met Tyr Ser Arg Asn
                245                 250                 255

Thr Asn Glu Asn Pro Gln Glu Cys Phe Asn Ala Ser Lys Leu Leu Thr
            260                 265                 270

Ser His Gly Met Gly Ile Gln Val Pro Leu Asn Ala Thr Glu Phe Asn
        275                 280                 285

Tyr Leu Cys Pro Ala Ile Ile Asn Gln Ile Asp Ala Arg Ser Cys Leu
    290                 295                 300

Ile His Thr Ser Glu Lys Lys Ala Glu Ile Pro Pro Lys Thr Tyr Ser
305                 310                 315                 320

Leu Gln Ile Ala Trp Val Gly Gly Phe Ile Ala Ile Ser Ile Ile Ser
                325                 330                 335

Phe Leu Ser Leu Leu Gly Val Ile Leu Val Pro Leu Met Asn Arg Val
            340                 345                 350

Phe Phe Lys Phe Leu Leu Ser Phe Leu Val Ala Leu Ala Val Gly Thr
        355                 360                 365

Leu Ser Gly Asp Ala Phe Leu His Leu Leu Pro His Ser His Ala Ser
    370                 375                 380

His His His Ser His Ser His Glu Glu Pro Ala Met Glu Met Lys Arg
385                 390                 395                 400

Gly Pro Leu Phe Ser His Leu Ser Ser Gln Asn Ile Glu Glu Ser Ala
                405                 410                 415

Tyr Phe Asp Ser Thr Trp Lys Gly Leu Thr Ala Leu Gly Gly Leu Tyr
            420                 425                 430

Phe Met Phe Leu Val Glu His Val Leu Thr Leu Ile Lys Gln Phe Lys
        435                 440                 445

Asp Lys Lys Lys Lys Asn Gln Lys Lys Pro Glu Asn Asp Asp Asp Val
    450                 455                 460

Glu Ile Lys Lys Gln Leu Ser Lys Tyr Glu Ser Gln Leu Ser Thr Asn
465                 470                 475                 480

Glu Glu Lys Val Asp Thr Asp Asp Arg Thr Glu Gly Tyr Leu Arg Ala
                485                 490                 495

Asp Ser Gln Glu Pro Ser His Phe Asp Ser Gln Gln Pro Ala Val Leu
            500                 505                 510
```

```
Glu Glu Glu Glu Val Met Ile Ala His Ala His Pro Gln Glu Val Tyr
        515                 520                 525

Asn Glu Tyr Val Pro Arg Gly Cys Lys Asn Lys Cys His Ser His Phe
    530                 535                 540

His Asp Thr Leu Gly Gln Ser Asp Asp Leu Ile His His His His Asp
545                 550                 555                 560

Tyr His His Ile Leu His His His His His Gln Asn His His Pro His
                565                 570                 575

Ser His Ser Gln Arg Tyr Ser Arg Glu Glu Leu Lys Asp Ala Gly Val
            580                 585                 590

Ala Thr Leu Ala Trp Met Val Ile Met Gly Asp Gly Leu His Asn Phe
        595                 600                 605

Ser Asp Gly Leu Ala Ile Gly Ala Ala Phe Thr Glu Gly Leu Ser Ser
    610                 615                 620

Gly Leu Ser Thr Ser Val Ala Val Phe Cys His Glu Leu Pro His Glu
625                 630                 635                 640

Leu Gly Asp Phe Ala Val Leu Leu Lys Ala Gly Met Thr Val Lys Gln
                645                 650                 655

Ala Val Leu Tyr Asn Ala Leu Ser Ala Met Leu Ala Tyr Leu Gly Met
            660                 665                 670

Ala Thr Gly Ile Phe Ile Gly His Tyr Ala Glu Asn Val Ser Met Trp
        675                 680                 685

Ile Phe Ala Leu Thr Ala Gly Leu Phe Met Tyr Val Ala Leu Val Asp
    690                 695                 700

Met Val Pro Glu Met Leu His Asn Asp Ala Ser Asp His Gly Cys Ser
705                 710                 715                 720

Arg Trp Gly Tyr Phe Phe Leu Gln Asn Ala Gly Met Leu Leu Gly Phe
                725                 730                 735

Gly Ile Met Leu Leu Ile Ser Ile Phe Glu His Lys Ile Val Phe Arg
            740                 745                 750

Ile Asn Phe
        755


<210> 103
<211> 749
<212> PRT
<213> Homo sapiens

<400> 103
Met Ala Arg Lys Leu Ser Val Ile Leu Ile Leu Thr Phe Ala Leu Ser
  1               5                  10                  15

Val Thr Asn Pro Leu His Glu Leu Lys Ala Ala Ala Phe Pro Gln Thr
            20                  25                  30
```

```
Thr Glu Lys Ile Ser Pro Asn Trp Glu Ser Gly Ile Asn Val Asp Leu
         35                  40                  45

Ala Ile Ser Thr Arg Gln Tyr His Leu Gln Gln Leu Phe Tyr Arg Tyr
     50                  55                  60

Gly Glu Asn Asn Ser Leu Ser Val Glu Gly Phe Arg Lys Leu Leu Gln
 65                  70                  75                  80

Asn Ile Gly Ile Asp Lys Ile Lys Arg Ile His Ile His His Asp His
                 85                  90                  95

Asp His His Ser Asp His Glu His His Ser Asp His Glu Arg His Ser
            100                 105                 110

Asp His Glu His His Ser Asp His Glu His His Ser Asp His Asn His
        115                 120                 125

Ala Ala Ser Gly Lys Asn Lys Arg Lys Ala Leu Cys Pro Asp His Asp
    130                 135                 140

Ser Asp Ser Ser Gly Lys Asp Pro Arg Asn Ser Gln Gly Lys Gly Ala
145                 150                 155                 160

His Arg Pro Glu His Ala Ser Gly Arg Arg Asn Val Lys Asp Ser Val
                165                 170                 175

Ser Ala Ser Glu Val Thr Ser Thr Val Tyr Asn Thr Val Ser Glu Gly
            180                 185                 190

Thr His Phe Leu Glu Thr Ile Glu Thr Pro Arg Pro Gly Lys Leu Phe
        195                 200                 205

Pro Lys Asp Val Ser Ser Ser Thr Pro Pro Ser Val Thr Ser Lys Ser
    210                 215                 220

Arg Val Ser Arg Leu Ala Gly Arg Lys Thr Asn Glu Ser Val Ser Glu
225                 230                 235                 240

Pro Arg Lys Gly Phe Met Tyr Ser Arg Asn Thr Asn Glu Asn Pro Gln
                245                 250                 255

Glu Cys Phe Asn Ala Ser Lys Leu Leu Thr Ser His Gly Met Gly Ile
            260                 265                 270

Gln Val Pro Leu Asn Ala Thr Glu Phe Asn Tyr Leu Cys Pro Ala Ile
        275                 280                 285

Ile Asn Gln Ile Asp Ala Arg Ser Cys Leu Ile His Thr Ser Glu Lys
    290                 295                 300

Lys Ala Glu Ile Pro Pro Lys Thr Tyr Ser Leu Gln Ile Ala Trp Val
305                 310                 315                 320

Gly Gly Phe Ile Ala Ile Ser Ile Ile Ser Phe Leu Ser Leu Leu Gly
                325                 330                 335

Val Ile Leu Val Pro Leu Met Asn Arg Val Phe Phe Lys Phe Leu Leu
            340                 345                 350

Ser Phe Leu Val Ala Leu Ala Val Gly Thr Leu Ser Gly Asp Ala Phe
        355                 360                 365
```

```
Leu His Leu Leu Pro His Ser His Ala Ser His His His Ser His Ser
    370                 375                 380

His Glu Glu Pro Ala Met Glu Met Lys Arg Gly Pro Leu Phe Ser His
385                 390                 395                 400

Leu Ser Ser Gln Asn Ile Glu Glu Ser Ala Tyr Phe Asp Ser Thr Trp
                405                 410                 415

Lys Gly Leu Thr Ala Leu Gly Gly Leu Tyr Phe Met Phe Leu Val Glu
            420                 425                 430

His Val Leu Thr Leu Ile Lys Gln Phe Lys Asp Lys Lys Lys Lys Asn
        435                 440                 445

Gln Lys Lys Pro Glu Asn Asp Asp Asp Val Glu Ile Lys Lys Gln Leu
    450                 455                 460

Ser Lys Tyr Glu Ser Gln Leu Ser Thr Asn Glu Glu Lys Val Asp Thr
465                 470                 475                 480

Asp Asp Arg Thr Glu Gly Tyr Leu Arg Ala Asp Ser Gln Glu Pro Ser
                485                 490                 495

His Phe Asp Ser Gln Gln Pro Ala Val Leu Glu Glu Glu Glu Val Met
            500                 505                 510

Ile Ala His Ala His Pro Gln Glu Val Tyr Asn Glu Tyr Val Pro Arg
        515                 520                 525

Gly Cys Lys Asn Lys Cys His Ser His Phe His Asp Thr Leu Gly Gln
    530                 535                 540

Ser Asp Asp Leu Ile His His His His Asp Tyr His His Ile Leu His
545                 550                 555                 560

His His His His Gln Asn His His Pro His Ser His Ser Gln Arg Tyr
                565                 570                 575

Ser Arg Glu Glu Leu Lys Asp Ala Gly Val Ala Thr Leu Ala Trp Met
            580                 585                 590

Val Ile Met Gly Asp Gly Leu His Asn Phe Ser Asp Gly Leu Ala Ile
        595                 600                 605

Gly Ala Ala Phe Thr Glu Gly Leu Ser Ser Gly Leu Ser Thr Ser Val
    610                 615                 620

Ala Val Phe Cys His Glu Leu Pro His Glu Leu Gly Asp Phe Ala Val
625                 630                 635                 640

Leu Leu Lys Ala Gly Met Thr Val Lys Gln Ala Val Leu Tyr Asn Ala
                645                 650                 655

Leu Ser Ala Met Leu Ala Tyr Leu Gly Met Ala Thr Gly Ile Phe Ile
            660                 665                 670

Gly His Tyr Ala Glu Asn Val Ser Met Trp Ile Phe Ala Leu Thr Ala
        675                 680                 685

Gly Leu Phe Met Tyr Val Ala Leu Val Asp Met Val Pro Glu Met Leu
```

```
    690                 695                 700

His Asn Asp Ala Ser Asp His Gly Cys Ser Arg Trp Gly Tyr Phe Phe
705                 710                 715                 720

Leu Gln Asn Ala Gly Met Leu Leu Gly Phe Gly Ile Met Leu Leu Ile
                725                 730                 735

Ser Ile Phe Glu His Lys Ile Val Phe Arg Ile Asn Phe
            740                 745


<210> 104
<211> 382
<212> PRT
<213> Homo sapiens

<400> 104
Phe Leu His Leu Leu Pro His Ser His Ala Ser His His His Ser His
  1               5                  10                  15

Ser His Glu Glu Pro Ala Met Glu Met Lys Arg Gly Pro Leu Phe Ser
             20                  25                  30

His Leu Ser Ser Gln Asn Ile Glu Glu Ser Ala Tyr Phe Asp Ser Thr
         35                  40                  45

Trp Lys Gly Leu Thr Ala Leu Gly Gly Leu Tyr Phe Met Phe Leu Val
     50                  55                  60

Glu His Val Leu Thr Leu Ile Lys Gln Phe Lys Asp Lys Lys Lys Lys
 65                  70                  75                  80

Asn Gln Lys Lys Pro Glu Asn Asp Asp Asp Val Glu Ile Lys Lys Gln
                 85                  90                  95

Leu Ser Lys Tyr Glu Ser Gln Leu Ser Thr Asn Glu Glu Lys Val Asp
            100                 105                 110

Thr Asp Asp Arg Thr Glu Gly Tyr Leu Arg Ala Asp Ser Gln Glu Pro
        115                 120                 125

Ser His Phe Asp Ser Gln Gln Pro Ala Val Leu Glu Glu Glu Glu Val
    130                 135                 140

Met Ile Ala His Ala His Pro Gln Glu Val Tyr Asn Glu Tyr Val Pro
145                 150                 155                 160

Arg Gly Cys Lys Asn Lys Cys His Ser His Phe His Asp Thr Leu Gly
                165                 170                 175

Gln Ser Asp Asp Leu Ile His His His His Asp Tyr His His Ile Leu
            180                 185                 190

His His His His His Gln Asn His His Pro His Ser His Ser Gln Arg
        195                 200                 205

Tyr Ser Arg Glu Glu Leu Lys Asp Ala Gly Val Ala Thr Leu Ala Trp
    210                 215                 220

Met Val Ile Met Gly Asp Gly Leu His Asn Phe Ser Asp Gly Leu Ala
225                 230                 235                 240
```

```
Ile Gly Ala Ala Phe Thr Glu Gly Leu Ser Ser Gly Leu Ser Thr Ser
                245                 250                 255

Val Ala Val Phe Cys His Glu Leu Pro His Glu Leu Gly Asp Phe Ala
            260                 265                 270

Val Leu Leu Lys Ala Gly Met Thr Val Lys Gln Ala Val Leu Tyr Asn
        275                 280                 285

Ala Leu Ser Ala Met Leu Ala Tyr Leu Gly Met Ala Thr Gly Ile Phe
    290                 295                 300

Ile Gly His Tyr Ala Glu Asn Val Ser Met Trp Ile Phe Ala Leu Thr
305                 310                 315                 320

Ala Gly Leu Phe Met Tyr Val Ala Leu Val Asp Met Val Pro Glu Met
                325                 330                 335

Leu His Asn Asp Ala Ser Asp His Gly Cys Ser Arg Trp Gly Tyr Phe
            340                 345                 350

Phe Leu Gln Asn Ala Gly Met Leu Leu Gly Phe Gly Ile Met Leu Leu
        355                 360                 365

Ile Ser Ile Phe Glu His Lys Ile Val Phe Arg Ile Asn Phe
    370                 375                 380
```

<210> 105
<211> 531
<212> PRT
<213> Homo sapiens

<400> 105

```
Arg Val Tyr Ala Asp Ala Pro Ala Lys Leu Leu Leu Pro Pro Pro Ala
  1               5                  10                  15

Ala Trp Asp Leu Ala Val Arg Leu Arg Gly Ala Glu Ala Ala Ser Glu
             20                  25                  30

Arg Gln Val Tyr Ser Val Thr Met Lys Leu Leu Leu Leu His Pro Ala
         35                  40                  45

Phe Gln Ser Cys Leu Leu Leu Thr Leu Leu Gly Leu Trp Arg Thr Thr
     50                  55                  60

Pro Glu Ala His Ala Ser Ser Leu Gly Ala Pro Ala Ile Ser Ala Ala
 65                  70                  75                  80

Ser Phe Leu Gln Asp Leu Ile His Arg Tyr Gly Glu Gly Asp Ser Leu
                 85                  90                  95

Thr Leu Gln Gln Leu Lys Ala Leu Leu Asn His Leu Asp Val Gly Val
            100                 105                 110

Gly Arg Gly Asn Val Thr Gln His Val Gln Gly His Arg Asn Leu Ser
        115                 120                 125

Thr Cys Phe Ser Ser Gly Asp Leu Phe Thr Ala His Asn Phe Ser Glu
    130                 135                 140
```

```
Gln Ser Arg Ile Gly Ser Ser Glu Leu Gln Glu Phe Cys Pro Thr Ile
145                 150                 155                 160

Leu Gln Gln Leu Asp Ser Arg Ala Cys Thr Ser Glu Asn Gln Glu Asn
                165                 170                 175

Glu Glu Asn Glu Gln Thr Glu Glu Gly Arg Pro Ser Ala Val Glu Val
            180                 185                 190

Trp Gly Tyr Gly Leu Leu Cys Val Thr Val Ile Ser Leu Cys Ser Leu
        195                 200                 205

Leu Gly Ala Ser Val Val Pro Phe Met Lys Lys Thr Phe Tyr Lys Arg
    210                 215                 220

Leu Leu Leu Tyr Phe Ile Ala Leu Ala Ile Gly Thr Leu Tyr Ser Asn
225                 230                 235                 240

Ala Leu Phe Gln Leu Ile Pro Glu Ala Phe Gly Phe Asn Pro Leu Glu
                245                 250                 255

Asp Tyr Tyr Val Ser Lys Ser Ala Val Val Phe Gly Gly Phe Tyr Leu
            260                 265                 270

Phe Phe Phe Thr Glu Lys Ile Leu Lys Ile Leu Leu Lys Gln Lys Asn
        275                 280                 285

Glu His His His Gly His Ser His Tyr Ala Ser Glu Ser Leu Pro Ser
    290                 295                 300

Lys Lys Asp Gln Glu Glu Gly Val Met Glu Lys Leu Gln Asn Gly Asp
305                 310                 315                 320

Leu Asp His Met Ile Pro Gln His Cys Ser Ser Glu Leu Asp Gly Lys
                325                 330                 335

Ala Pro Met Val Asp Glu Lys Val Ile Val Gly Ser Leu Ser Val Gln
            340                 345                 350

Asp Leu Gln Ala Ser Gln Ser Ala Cys Tyr Trp Leu Lys Gly Val Arg
        355                 360                 365

Tyr Ser Asp Ile Gly Thr Leu Ala Trp Met Ile Thr Leu Ser Asp Gly
    370                 375                 380

Leu His Asn Phe Ile Asp Gly Leu Ala Ile Gly Ala Ser Phe Thr Val
385                 390                 395                 400

Ser Val Phe Gln Gly Ile Ser Thr Ser Val Ala Ile Leu Cys Glu Glu
                405                 410                 415

Phe Pro His Glu Leu Gly Asp Phe Val Ile Leu Leu Asn Ala Gly Met
            420                 425                 430

Ser Ile Gln Gln Ala Leu Phe Phe Asn Phe Leu Ser Ala Cys Cys Cys
        435                 440                 445

Tyr Leu Gly Leu Ala Phe Gly Ile Leu Ala Gly Ser His Phe Ser Ala
    450                 455                 460

Asn Trp Ile Phe Ala Leu Ala Gly Gly Met Phe Leu Tyr Ile Ser Leu
465                 470                 475                 480
```

```
Ala Asp Met Phe Pro Glu Met Asn Glu Val Cys Gln Glu Asp Glu Arg
                485                 490                 495

Lys Gly Ser Ile Leu Ile Pro Phe Ile Ile Gln Asn Leu Gly Leu Leu
            500                 505                 510

Thr Gly Phe Thr Ile Met Val Val Leu Thr Met Tyr Ser Gly Gln Ile
        515                 520                 525

Gln Ile Gly
    530
```

<210> 106
<211> 1219
<212> PRT
<213> Homo sapiens

<400> 106

```
Met Leu Arg Arg Val Thr Val Ala Ala Val Cys Ala Thr Arg Arg Lys
  1               5                  10                  15

Leu Cys Glu Ala Gly Arg Asp Val Ala Ala Leu Trp Gly Ile Glu Thr
             20                  25                  30

Arg Gly Arg Cys Glu Asp Ser Ala Ala Ala Arg Pro Phe Pro Ile Leu
         35                  40                  45

Ala Met Pro Gly Arg Asn Lys Ala Lys Ser Thr Cys Ser Cys Pro Asp
     50                  55                  60

Leu Gln Pro Asn Gly Gln Asp Leu Gly Glu Asn Ser Arg Val Ala Arg
 65                  70                  75                  80

Leu Gly Ala Asp Glu Ser Glu Glu Glu Gly Arg Arg Gly Ser Leu Ser
                 85                  90                  95

Asn Ala Gly Asp Pro Glu Ile Val Lys Ser Pro Ser Asp Pro Lys Gln
            100                 105                 110

Tyr Arg Tyr Ile Lys Leu Gln Asn Gly Leu Gln Ala Leu Leu Ile Ser
        115                 120                 125

Asp Leu Ser Asn Met Glu Gly Lys Thr Gly Asn Thr Thr Asp Asp Glu
    130                 135                 140

Glu Glu Glu Glu Val Glu Glu Glu Glu Glu Asp Asp Asp Glu Asp Ser
145                 150                 155                 160

Gly Ala Glu Ile Glu Asp Asp Asp Glu Glu Gly Phe Asp Asp Glu Asp
                165                 170                 175

Glu Phe Asp Asp Glu His Asp Asp Asp Leu Asp Thr Glu Asp Asn Glu
            180                 185                 190

Leu Glu Glu Leu Glu Glu Arg Ala Glu Ala Arg Lys Lys Thr Thr Glu
        195                 200                 205

Lys Gln Gln Leu Gln Ser Leu Phe Leu Leu Trp Ser Lys Leu Thr Asp
    210                 215                 220
```

```
Arg Leu Trp Phe Lys Ser Thr Tyr Ser Lys Met Ser Ser Thr Leu Leu
225                 230                 235                 240

Val Glu Thr Arg Asn Leu Tyr Gly Val Val Gly Ala Glu Ser Arg Ser
                245                 250                 255

Ala Pro Val Gln His Leu Ala Gly Trp Gln Ala Glu Glu Gln Gln Gly
            260                 265                 270

Glu Thr Asp Thr Val Leu Ser Ala Ala Ala Leu Cys Val Gly Val Gly
        275                 280                 285

Ser Phe Ala Asp Pro Asp Asp Leu Pro Gly Leu Ala His Phe Leu Glu
    290                 295                 300

His Met Val Phe Met Gly Ser Leu Lys Tyr Pro Asp Glu Asn Gly Phe
305                 310                 315                 320

Asp Ala Phe Leu Lys Lys His Gly Gly Ser Asp Asn Ala Ser Thr Asp
                325                 330                 335

Cys Glu Arg Thr Val Phe Gln Phe Asp Val Gln Arg Lys Tyr Phe Lys
            340                 345                 350

Glu Ala Leu Asp Arg Trp Ala Gln Phe Phe Ile His Pro Leu Met Ile
        355                 360                 365

Arg Asp Ala Ile Asp Arg Glu Val Glu Ala Val Asp Ser Glu Tyr Gln
    370                 375                 380

Leu Ala Arg Pro Ser Asp Ala Asn Arg Lys Glu Met Leu Phe Gly Ser
385                 390                 395                 400

Leu Ala Arg Pro Gly His Pro Met Gly Lys Phe Phe Trp Gly Asn Ala
                405                 410                 415

Glu Thr Leu Lys His Glu Pro Arg Lys Asn Asn Ile Asp Thr His Ala
            420                 425                 430

Arg Leu Arg Glu Phe Trp Met Arg Tyr Tyr Ser Ser His Tyr Met Thr
        435                 440                 445

Leu Val Val Gln Ser Lys Glu Thr Leu Asp Thr Leu Glu Lys Trp Val
    450                 455                 460

Thr Glu Ile Phe Ser Gln Ile Pro Asn Asn Gly Leu Pro Arg Pro Asn
465                 470                 475                 480

Phe Gly His Leu Thr Asp Pro Phe Asp Thr Pro Ala Phe Asn Lys Leu
                485                 490                 495

Tyr Arg Val Val Pro Ile Arg Lys Ile His Ala Leu Thr Ile Thr Trp
            500                 505                 510

Ala Leu Pro Pro Gln Gln Gln His Tyr Arg Val Lys Pro Leu His Tyr
        515                 520                 525

Ile Ser Trp Leu Val Gly His Glu Gly Lys Gly Ser Ile Leu Ser Phe
    530                 535                 540

Leu Arg Lys Lys Cys Trp Ala Leu Ala Leu Phe Gly Gly Asn Gly Glu
545                 550                 555                 560
```

```
Thr Gly Phe Glu Gln Asn Ser Thr Tyr Ser Val Phe Ser Ile Ser Ile
                565                 570                 575

Thr Leu Thr Asp Glu Gly Tyr Glu His Phe Tyr Glu Val Ala Tyr Thr
            580                 585                 590

Val Phe Leu Tyr Leu Lys Met Leu Gln Lys Leu Gly Pro Glu Lys Arg
        595                 600                 605

Ile Phe Glu Glu Ile Arg Lys Ile Glu Asp Asn Glu Phe His Tyr Gln
    610                 615                 620

Glu Gln Thr Asp Pro Val Glu Tyr Val Glu Asn Met Cys Glu Asn Met
625                 630                 635                 640

Gln Leu Tyr Pro Leu Gln Asp Ile Leu Thr Gly Asp Gln Leu Leu Phe
                645                 650                 655

Glu Tyr Lys Pro Glu Val Ile Gly Glu Ala Leu Asn Gln Leu Val Pro
            660                 665                 670

Gln Lys Ala Asn Leu Val Leu Leu Ser Gly Ala Asn Glu Gly Lys Cys
        675                 680                 685

Asp Leu Lys Glu Lys Trp Phe Gly Thr Gln Tyr Ser Ile Glu Asp Ile
    690                 695                 700

Glu Asn Ser Trp Ala Glu Leu Trp Asn Ser Asn Phe Glu Leu Asn Pro
705                 710                 715                 720

Asp Leu His Leu Pro Ala Glu Asn Lys Tyr Ile Ala Thr Asp Phe Thr
                725                 730                 735

Leu Lys Ala Phe Asp Cys Pro Glu Thr Glu Tyr Pro Val Lys Ile Val
            740                 745                 750

Asn Thr Pro Gln Gly Cys Leu Trp Tyr Lys Lys Asp Asn Lys Phe Lys
        755                 760                 765

Ile Pro Lys Ala Tyr Ile Arg Phe His Leu Ile Ser Pro Leu Ile Gln
    770                 775                 780

Lys Ser Ala Ala Asn Val Val Leu Phe Asp Ile Phe Val Asn Ile Leu
785                 790                 795                 800

Thr His Asn Leu Ala Glu Pro Ala Tyr Glu Ala Asp Val Ala Gln Leu
                805                 810                 815

Glu Tyr Lys Leu Ala Ala Gly Glu His Gly Leu Ile Ile Arg Val Lys
            820                 825                 830

Gly Phe Asn His Lys Leu Pro Leu Leu Phe Gln Leu Ile Ile Asp Tyr
        835                 840                 845

Leu Ala Glu Phe Asn Ser Thr Pro Ala Val Phe Thr Met Ile Thr Glu
    850                 855                 860

Gln Leu Lys Lys Thr Tyr Phe Asn Ile Leu Ile Lys Pro Glu Thr Leu
865                 870                 875                 880

Ala Lys Asp Val Arg Leu Leu Ile Leu Glu Tyr Ala Arg Trp Ser Met
```

```
                885                 890                 895

Ile Asp Lys Tyr Gln Ala Leu Met Asp Gly Leu Ser Leu Glu Ser Leu
            900                 905                 910

Leu Ser Phe Val Lys Glu Phe Lys Ser Gln Leu Phe Val Glu Gly Leu
        915                 920                 925

Val Gln Gly Asn Val Thr Ser Thr Glu Ser Met Asp Phe Leu Lys Tyr
    930                 935                 940

Val Val Asp Lys Leu Asn Phe Lys Pro Leu Glu Gln Glu Met Pro Val
945                 950                 955                 960

Gln Phe Gln Val Val Glu Leu Pro Ser Gly His His Leu Cys Lys Val
                965                 970                 975

Lys Ala Leu Asn Lys Gly Asp Ala Asn Ser Glu Val Thr Val Tyr Tyr
            980                 985                 990

Gln Ser Gly Thr Arg Ser Leu Arg Glu Tyr Thr Leu Met Glu Leu Leu
        995                1000                1005

Val Met His Met Glu Glu Pro Cys Phe Asp Phe Leu Arg Thr Lys Gln
   1010                1015                1020

Thr Leu Gly Tyr His Val Tyr Pro Thr Cys Arg Asn Thr Ser Gly Ile
1025                1030                1035                1040

Leu Gly Phe Ser Val Thr Val Gly Thr Gln Ala Thr Lys Tyr Asn Ser
                1045                1050                1055

Glu Val Val Asp Lys Lys Ile Glu Glu Phe Leu Ser Ser Phe Glu Glu
            1060                1065                1070

Lys Ile Glu Asn Leu Thr Glu Glu Ala Phe Asn Thr Gln Val Thr Ala
        1075                1080                1085

Leu Ile Lys Leu Lys Glu Cys Glu Asp Thr His Leu Gly Glu Glu Val
   1090                1095                1100

Asp Arg Asn Trp Asn Glu Val Val Thr Gln Gln Tyr Leu Phe Asp Arg
1105                1110                1115                1120

Leu Ala His Glu Ile Glu Ala Leu Lys Ser Phe Ser Lys Ser Asp Leu
                1125                1130                1135

Val Asn Trp Phe Lys Ala His Arg Gly Pro Gly Ser Lys Met Leu Ser
            1140                1145                1150

Val His Val Val Gly Tyr Gly Lys Tyr Glu Leu Glu Glu Asp Gly Ser
        1155                1160                1165

Pro Ser Ser Glu Asp Ser Asn Ser Ser Cys Glu Val Met Gln Leu Thr
   1170                1175                1180

Tyr Leu Pro Thr Ser Pro Leu Leu Ala Asp Cys Ile Ile Pro Ile Thr
1185                1190                1195                1200

Asp Ile Arg Ala Phe Thr Thr Thr Leu Asn Leu Leu Pro Tyr His Lys
                1205                1210                1215
```

Ile Val Lys

<210> 107
<211> 1229
<212> PRT
<213> Rattus norvegicus

<400> 107
Met Leu Arg Arg Val Ala Val Ala Ala Val Phe Ala Thr Gly Arg Lys
1 5 10 15

Leu Arg Cys Glu Ala Gly Arg Asp Val Thr Ala Val Gly Arg Ile Glu
20 25 30

Ala Arg Gly Leu Cys Glu Glu Ser Ala Lys Pro Phe Pro Thr Leu Thr
35 40 45

Met Pro Gly Arg Asn Lys Ala Lys Ser Thr Cys Ser Cys Pro Asp Leu
50 55 60

Gln Pro Asn Gly Gln Asp Leu Gly Glu Ser Gly Arg Val Ala Arg Leu
65 70 75 80

Gly Ala Asp Glu Ser Glu Glu Glu Gly Arg Ser Leu Ser Asn Val Gly
85 90 95

Asp Pro Glu Ile Ile Lys Ser Pro Ser Asp Pro Lys Gln Tyr Arg Tyr
100 105 110

Ile Lys Leu Gln Asn Gly Leu Gln Ala Leu Leu Ile Ser Asp Leu Ser
115 120 125

Asn Val Glu Gly Lys Thr Gly Asn Ala Thr Asp Glu Glu Glu Glu Glu
130 135 140

Glu Glu Glu Glu Glu Glu Gly Glu Glu Glu Glu Glu Glu Glu Glu Asp
145 150 155 160

Asp Asp Asp Asp Asp Asp Glu Asp Ser Gly Ala Glu Ile Gln Asp Asp
165 170 175

Asp Glu Glu Gly Phe Asp Asp Glu Glu Glu Phe Asp Asp Asp Glu His
180 185 190

Asp Asp Asp Asp Leu Asp Asn Glu Glu Asn Glu Leu Glu Glu Leu Glu
195 200 205

Glu Arg Val Glu Ala Arg Lys Lys Thr Thr Glu Lys Gln Gln Ser Gln
210 215 220

Asn Leu Phe Leu Leu Trp Ser Lys Leu Thr Asp Arg Leu Trp Phe Lys
225 230 235 240

Ser Ser Tyr Ser Lys Met Ser Ser Thr Leu Leu Val Glu Thr Arg Asn
245 250 255

Leu Tyr Gly Val Val Gly Ala Glu Ser Arg Ser Ala Pro Val Glu His
260 265 270

Leu Ala Gly Trp Gln Val Glu Glu Gln Gln Gly Glu Thr Asp Thr Val

```
        275                 280                 285

Leu Ser Ala Ala Ala Leu Cys Val Gly Val Gly Ser Phe Ala Asp Pro
    290                 295                 300

Asp Asp Leu Pro Gly Leu Ala His Phe Leu Glu His Met Val Phe Met
305                 310                 315                 320

Gly Ser Leu Lys Tyr Pro Asp Glu Asn Gly Phe Asp Ala Phe Leu Lys
                325                 330                 335

Lys His Gly Gly Ser Asp Asn Ala Ser Thr Asp Cys Glu Arg Thr Val
            340                 345                 350

Phe Gln Phe Asp Val Gln Arg Lys Tyr Phe Lys Glu Ala Leu Asp Arg
        355                 360                 365

Trp Ala Gln Phe Phe Ile His Pro Leu Met Ile Arg Asp Ala Ile Asp
    370                 375                 380

Arg Glu Val Glu Ala Val Asp Ser Glu Tyr Gln Leu Ala Arg Pro Ser
385                 390                 395                 400

Asp Ala Asn Arg Lys Glu Met Leu Phe Gly Ser Leu Ala Arg Pro Gly
                405                 410                 415

His Pro Met Gly Lys Phe Phe Trp Gly Asn Ala Glu Thr Leu Lys His
            420                 425                 430

Glu Pro Lys Lys Asn Asn Ile Asp Thr His Ala Arg Leu Arg Glu Phe
        435                 440                 445

Trp Met Arg Tyr Tyr Ser Ala His Tyr Met Thr Leu Val Val Gln Ser
    450                 455                 460

Lys Glu Thr Leu Asp Thr Leu Glu Lys Trp Val Thr Glu Ile Phe Ser
465                 470                 475                 480

Gln Ile Pro Asn Asn Gly Leu Pro Lys Pro Asn Phe Ser His Leu Thr
                485                 490                 495

Asp Pro Phe Asp Thr Pro Ala Phe Asn Lys Leu Tyr Arg Val Val Pro
            500                 505                 510

Ile Arg Lys Ile His Ala Leu Thr Ile Thr Trp Ala Leu Pro Pro Gln
        515                 520                 525

Gln Gln His Tyr Arg Val Lys Pro Leu His Tyr Ile Ser Trp Leu Val
    530                 535                 540

Gly His Glu Gly Lys Gly Ser Ile Leu Ser Tyr Leu Arg Lys Lys Cys
545                 550                 555                 560

Trp Ala Leu Ala Leu Phe Gly Gly Asn Gly Glu Thr Gly Phe Glu Gln
                565                 570                 575

Asn Ser Thr Tyr Ser Val Phe Ser Ile Ser Ile Thr Leu Thr Asp Glu
            580                 585                 590

Gly Tyr Glu His Phe Tyr Glu Val Ala His Thr Val Phe Gln Tyr Leu
        595                 600                 605
```

```
Lys Met Leu Gln Lys Leu Gly Pro Glu Lys Arg Val Phe Glu Glu Ile
    610                 615                 620

Gln Lys Ile Glu Asp Asn Glu Phe His Tyr Gln Glu Gln Thr Asp Pro
625                 630                 635                 640

Val Glu Tyr Val Glu Asn Met Cys Glu Asn Met Gln Leu Tyr Pro Arg
                645                 650                 655

Gln Asp Phe Leu Thr Gly Asp Gln Leu Leu Phe Glu Tyr Lys Pro Glu
            660                 665                 670

Val Ile Ala Glu Ala Leu Asn Gln Leu Val Pro Gln Lys Ala Asn Leu
        675                 680                 685

Val Leu Leu Ser Gly Ala Asn Glu Gly Arg Cys Asp Leu Lys Glu Lys
    690                 695                 700

Trp Phe Gly Thr Gln Tyr Ser Ile Glu Asp Ile Glu Asn Ser Trp Thr
705                 710                 715                 720

Glu Leu Trp Lys Ser Asn Phe Asp Leu Asn Ser Asp Leu His Leu Pro
                725                 730                 735

Ala Glu Asn Lys Tyr Ile Ala Thr Asp Phe Thr Leu Lys Ala Phe Asp
            740                 745                 750

Cys Pro Glu Thr Glu Tyr Pro Ala Lys Ile Val Asn Thr Pro Gln Gly
        755                 760                 765

Cys Leu Trp Tyr Lys Lys Asp Asn Lys Phe Lys Ile Pro Lys Ala Tyr
    770                 775                 780

Ile Arg Phe His Leu Ile Ser Pro Leu Ile Gln Lys Ser Ala Ala Asn
785                 790                 795                 800

Val Val Leu Phe Asp Ile Phe Val Asn Ile Leu Thr His Asn Leu Ala
                805                 810                 815

Glu Pro Ala Tyr Glu Ala Asp Val Ala Gln Leu Glu Tyr Lys Leu Val
            820                 825                 830

Ala Gly Glu His Gly Leu Ile Ile Arg Val Lys Gly Phe Asn His Lys
        835                 840                 845

Leu Pro Leu Leu Phe Gln Leu Ile Ile Asp Tyr Leu Thr Glu Phe Ser
    850                 855                 860

Ser Thr Pro Ala Val Phe Thr Met Ile Thr Glu Gln Leu Lys Lys Thr
865                 870                 875                 880

Tyr Phe Asn Ile Leu Ile Lys Pro Glu Thr Leu Ala Lys Asp Val Arg
                885                 890                 895

Leu Leu Ile Leu Glu Tyr Ser Arg Trp Ser Met Ile Asp Lys Tyr Arg
            900                 905                 910

Ala Leu Met Asp Gly Leu Ser Leu Glu Ser Leu Leu Asn Phe Val Lys
        915                 920                 925

Asp Phe Lys Ser Gln Leu Phe Val Glu Gly Leu Val Gln Gly Asn Val
    930                 935                 940
```

```
Thr Ser Thr Glu Ser Met Asp Phe Leu Arg Tyr Val Val Asp Lys Leu
945                 950                 955                 960

Asn Phe Val Pro Leu Glu Arg Glu Met Pro Val Gln Phe Gln Val Val
                965                 970                 975

Glu Leu Pro Ser Gly His His Leu Cys Lys Val Arg Ala Leu Asn Lys
            980                 985                 990

Gly Asp Ala Asn Ser Glu Val Thr Val Tyr Tyr Gln Ser Gly Thr Arg
        995                1000                1005

Ser Leu Arg Glu Tyr Thr Leu Met Glu Leu Leu Val Met His Met Glu
   1010                1015                1020

Glu Pro Cys Phe Asp Phe Leu Arg Thr Lys Gln Thr Leu Gly Tyr His
1025                1030                1035                1040

Val Tyr Pro Thr Cys Arg Asn Thr Ser Gly Ile Leu Gly Phe Ser Val
                1045                1050                1055

Thr Val Gly Thr Gln Ala Thr Lys Tyr Asn Ser Glu Thr Val Asp Lys
            1060                1065                1070

Lys Ile Glu Glu Phe Leu Ser Ser Phe Glu Glu Lys Ile Glu Asn Leu
        1075                1080                1085

Thr Glu Asp Ala Phe Asn Thr Gln Val Thr Ala Leu Ile Lys Leu Lys
   1090                1095                1100

Glu Cys Glu Asp Thr His Leu Gly Glu Glu Val Asp Arg Asn Trp Asn
1105                1110                1115                1120

Glu Val Val Thr Gln Gln Tyr Leu Phe Asp Arg Leu Ala His Glu Ile
                1125                1130                1135

Glu Ala Leu Lys Ser Phe Ser Lys Ser Asp Leu Val Ser Trp Phe Lys
            1140                1145                1150

Ala His Arg Gly Pro Gly Ser Lys Met Leu Ser Val His Val Val Gly
        1155                1160                1165

Tyr Gly Lys Tyr Glu Leu Glu Glu Asp Gly Ala Pro Val Cys Glu Asp
   1170                1175                1180

Pro Asn Ser Arg Glu Gly Met Gln Leu Ile Tyr Leu Pro Pro Ser Pro
1185                1190                1195                1200

Leu Leu Ala Glu Ser Thr Thr Pro Ile Thr Asp Ile Arg Ala Phe Thr
                1205                1210                1215

Ala Thr Leu Ser Leu Phe Pro Tyr His Lys Ile Val Lys
            1220                1225
```

<210> 108
<211> 1017
<212> PRT
<213> Homo sapiens

<400> 108

```
Met Leu Arg Arg Val Thr Val Ala Ala Val Cys Ala Thr Arg Arg Lys
  1               5                  10                  15

Leu Cys Glu Ala Gly Arg Glu Leu Ala Ala Leu Trp Gly Ile Glu Thr
             20                  25                  30

Arg Gly Arg Cys Glu Asp Ser Ala Ala Ala Arg Pro Phe Pro Ile Leu
         35                  40                  45

Ala Met Pro Gly Arg Asn Lys Ala Lys Ser Thr Cys Ser Cys Pro Asp
     50                  55                  60

Leu Gln Pro Asn Gly Gln Asp Leu Gly Glu Asn Ser Arg Val Ala Arg
 65                  70                  75                  80

Leu Gly Ala Asp Glu Ser Glu Glu Glu Gly Arg Arg Gly Ser Leu Ser
                 85                  90                  95

Asn Ala Gly Asp Pro Glu Ile Val Lys Ser Pro Ser Asp Pro Lys Gln
            100                 105                 110

Tyr Arg Tyr Ile Lys Leu Gln Asn Gly Leu Gln Ala Leu Leu Ile Ser
        115                 120                 125

Asp Leu Ser Asn Met Glu Gly Lys Thr Gly Asn Thr Thr Asp Asp Glu
    130                 135                 140

Glu Glu Glu Glu Val Glu Glu Glu Glu Glu Asp Asp Asp Glu Asp Ser
145                 150                 155                 160

Gly Ala Glu Ile Glu Asp Asp Asp Glu Glu Gly Phe Asp Asp Glu Asp
                165                 170                 175

Glu Phe Asp Asp Glu His Asp Asp Asp Leu Asp Thr Glu Asp Asn Glu
            180                 185                 190

Leu Glu Glu Leu Glu Glu Arg Ala Glu Ala Arg Lys Lys Thr Thr Glu
        195                 200                 205

Lys Gln Gln Leu Gln Ser Leu Phe Leu Leu Trp Ser Lys Leu Thr Asp
    210                 215                 220

Arg Leu Trp Phe Lys Ser Thr Tyr Ser Lys Met Ser Ser Thr Leu Leu
225                 230                 235                 240

Val Glu Thr Arg Asn Leu Tyr Gly Val Val Gly Ala Glu Ser Arg Ser
                245                 250                 255

Ala Pro Val Gln His Leu Ala Gly Trp Gln Ala Glu Glu Gln Gln Gly
            260                 265                 270

Glu Thr Asp Thr Val Leu Ser Ala Ala Ala Leu Cys Val Gly Val Gly
        275                 280                 285

Ser Phe Ala Asp Pro Asp Asp Leu Pro Gly Leu Ala His Phe Leu Glu
    290                 295                 300

His Met Val Phe Met Gly Ser Leu Lys Tyr Pro Asp Glu Asn Gly Phe
305                 310                 315                 320

Asp Ala Phe Leu Lys Lys His Gly Gly Ser Asp Asn Ala Ser Thr Asp
                325                 330                 335
```

```
Cys Glu Arg Thr Val Phe Gln Phe Asp Val Gln Arg Lys Tyr Phe Lys
            340                 345                 350

Glu Ala Leu Asp Arg Trp Ala Gln Phe Phe Ile His Pro Leu Met Ile
        355                 360                 365

Arg Asp Ala Ile Asp Arg Glu Val Glu Ala Val Asp Ser Glu Tyr Gln
    370                 375                 380

Leu Ala Arg Pro Ser Asp Ala Asn Arg Lys Glu Met Leu Phe Gly Ser
385                 390                 395                 400

Leu Ala Arg Pro Gly His Pro Met Gly Lys Phe Phe Trp Gly Asn Ala
                405                 410                 415

Glu Thr Leu Lys His Glu Pro Arg Lys Asn Asn Ile Asp Thr His Ala
            420                 425                 430

Arg Leu Arg Glu Phe Trp Met Arg Tyr Tyr Ser Ser His Tyr Met Thr
        435                 440                 445

Leu Val Val Gln Ser Lys Glu Thr Leu Asp Thr Leu Glu Lys Trp Val
    450                 455                 460

Thr Glu Ile Phe Ser Gln Ile Pro Asn Asn Gly Leu Pro Arg Pro Asn
465                 470                 475                 480

Phe Gly His Leu Thr Asp Pro Phe Asp Thr Pro Ala Phe Asn Lys Leu
                485                 490                 495

Tyr Arg Val Val Pro Ile Arg Lys Ile His Ala Leu Thr Ile Thr Trp
            500                 505                 510

Ala Leu Pro Pro Gln Gln Gln His Tyr Arg Val Lys Pro Leu His Tyr
        515                 520                 525

Ile Ser Trp Leu Val Gly His Glu Gly Lys Gly Ser Ile Leu Ser Phe
    530                 535                 540

Leu Arg Lys Lys Cys Trp Ala Leu Ala Leu Phe Gly Gly Asn Gly Glu
545                 550                 555                 560

Thr Gly Phe Glu Gln Asn Ser Thr Tyr Ser Val Phe Ser Ile Ser Ile
                565                 570                 575

Thr Leu Thr Asp Glu Gly Tyr Glu His Phe Tyr Glu Val Ala Tyr Thr
            580                 585                 590

Val Phe Gln Tyr Leu Lys Met Leu Gln Lys Leu Gly Pro Glu Lys Arg
        595                 600                 605

Ile Phe Glu Glu Ile Arg Lys Ile Glu Asp Asn Glu Phe His Tyr Gln
    610                 615                 620

Glu Gln Thr Asp Pro Val Glu Tyr Val Glu Asn Met Cys Glu Asn Met
625                 630                 635                 640

Gln Leu Tyr Pro Leu Gln Asp Ile Leu Thr Gly Asp Gln Leu Leu Phe
                645                 650                 655

Glu Tyr Lys Pro Glu Val Ile Gly Glu Ala Leu Asn Gln Leu Val Pro
```

660 665 670

Gln Lys Ala Asn Leu Val Leu Leu Ser Gly Ala Asn Glu Gly Lys Cys
675 680 685

Asp Leu Lys Glu Lys Trp Phe Gly Thr Gln Tyr Ser Ile Glu Asp Ile
690 695 700

Glu Asn Ser Trp Ala Glu Leu Trp Asn Ser Asn Phe Glu Leu Asn Pro
705 710 715 720

Asp Leu His Leu Pro Ala Glu Asn Lys Tyr Ile Ala Thr Asp Phe Thr
725 730 735

Leu Lys Ala Phe Asp Cys Pro Glu Thr Glu Tyr Pro Val Lys Ile Val
740 745 750

Asn Thr Pro Gln Gly Cys Leu Trp Tyr Lys Lys Asp Asn Lys Phe Lys
755 760 765

Ile Pro Lys Ala Tyr Ile Arg Phe His Leu Ile Ser Pro Leu Ile Gln
770 775 780

Lys Ser Ala Ala Asn Val Val Leu Phe Asp Ile Phe Val Asn Ile Leu
785 790 795 800

Thr His Asn Leu Ala Glu Pro Ala Tyr Glu Ala Asp Val Ala Gln Leu
805 810 815

Glu Tyr Lys Leu Val Ala Gly Glu His Gly Leu Ile Ile Arg Val Lys
820 825 830

Gly Phe Asn His Lys Leu Pro Leu Leu Phe Gln Leu Ile Ile Asp Tyr
835 840 845

Leu Ala Glu Phe Asn Ser Thr Pro Ala Val Phe Thr Met Ile Thr Glu
850 855 860

Gln Leu Lys Lys Thr Tyr Phe Asn Ile Leu Ile Lys Pro Glu Thr Leu
865 870 875 880

Ala Lys Asp Val Arg Leu Leu Ile Leu Glu Tyr Ala Arg Trp Ser Met
885 890 895

Ile Asp Lys Tyr Gln Ala Leu Met Asp Gly Leu Ser Leu Glu Ser Leu
900 905 910

Leu Ser Phe Val Lys Glu Phe Lys Ser Gln Leu Phe Val Glu Gly Leu
915 920 925

Val Gln Gly Asn Val Thr Ser Thr Glu Ser Met Asp Phe Leu Lys Tyr
930 935 940

Val Val Asp Lys Leu Asn Phe Lys Pro Leu Glu Gln Glu Met Pro Val
945 950 955 960

Gln Phe Gln Val Val Glu Leu Pro Ser Gly His His Leu Cys Lys Val
965 970 975

Lys Ala Leu Asn Lys Gly Asp Ala Asn Ser Glu Val Thr Val Tyr Tyr
980 985 990

```
Gln Val Arg Tyr Gln Glu Ser Lys Arg Ile Tyr Ala Tyr Gly Ala Ala
        995                1000                1005

Cys Asp Ala His Gly Arg Thr Leu Phe
   1010                1015


<210> 109
<211> 862
<212> PRT
<213> Homo sapiens

<400> 109
Trp Ala Gln Phe Phe Ile His Pro Leu Met Ile Arg Asp Ala Ile Asp
  1               5                  10                  15

Arg Glu Val Glu Ala Val Asp Ser Glu Tyr Gln Leu Ala Arg Pro Ser
             20                  25                  30

Asp Ala Asn Arg Lys Glu Met Leu Phe Gly Ser Leu Ala Arg Pro Gly
         35                  40                  45

His Pro Met Gly Lys Phe Phe Trp Gly Asn Ala Glu Thr Leu Lys His
     50                  55                  60

Glu Pro Arg Lys Asn Asn Ile Asp Thr His Ala Arg Leu Arg Glu Phe
 65                  70                  75                  80

Trp Met Arg Tyr Tyr Ser Ser His Tyr Met Thr Leu Val Val Gln Ser
                 85                  90                  95

Lys Glu Thr Leu Asp Thr Leu Glu Lys Trp Val Thr Glu Ile Phe Ser
            100                 105                 110

Gln Ile Pro Asn Asn Gly Leu Pro Arg Pro Asn Phe Gly His Leu Thr
        115                 120                 125

Asp Pro Phe Asp Thr Pro Ala Phe Asn Lys Leu Tyr Arg Val Val Pro
    130                 135                 140

Ile Arg Lys Ile His Ala Leu Thr Ile Thr Trp Ala Leu Pro Pro Gln
145                 150                 155                 160

Gln Gln His Tyr Arg Val Lys Pro Leu His Tyr Ile Ser Trp Leu Val
                165                 170                 175

Gly His Glu Gly Lys Gly Ser Ile Leu Ser Phe Leu Arg Lys Lys Cys
            180                 185                 190

Trp Ala Leu Ala Leu Phe Gly Gly Asn Gly Glu Thr Gly Phe Glu Gln
        195                 200                 205

Asn Ser Thr Tyr Ser Val Phe Ser Ile Ser Ile Thr Leu Thr Asp Glu
    210                 215                 220

Gly Tyr Glu His Phe Tyr Glu Val Ala Tyr Thr Val Phe Gln Tyr Leu
225                 230                 235                 240

Lys Met Leu Gln Lys Leu Gly Pro Glu Lys Arg Ile Phe Glu Glu Ile
                245                 250                 255

Arg Lys Ile Glu Asp Asn Glu Phe His Tyr Gln Glu Gln Thr Asp Pro
```

```
            260                 265                 270

Val Glu Tyr Val Glu Asn Met Cys Glu Asn Met Gln Leu Tyr Pro Leu
        275                 280                 285

Gln Asp Ile Leu Thr Gly Asp Gln Leu Leu Phe Glu Tyr Lys Pro Glu
    290                 295                 300

Val Ile Gly Glu Ala Leu Asn Gln Leu Val Pro Gln Lys Ala Asn Leu
305                 310                 315                 320

Val Leu Leu Ser Gly Ala Asn Glu Gly Lys Cys Asp Leu Lys Glu Lys
                325                 330                 335

Trp Phe Gly Thr Gln Tyr Ser Ile Glu Asp Ile Glu Asn Ser Trp Ala
            340                 345                 350

Glu Leu Trp Asn Ser Asn Phe Glu Leu Asn Pro Asp Leu His Leu Pro
        355                 360                 365

Ala Glu Asn Lys Tyr Ile Ala Thr Asp Phe Thr Leu Lys Ala Phe Asp
    370                 375                 380

Cys Pro Glu Thr Glu Tyr Pro Val Lys Ile Val Asn Thr Pro Gln Gly
385                 390                 395                 400

Cys Leu Trp Tyr Lys Lys Asp Asn Lys Phe Lys Ile Pro Lys Ala Tyr
                405                 410                 415

Ile Arg Phe His Leu Ile Ser Pro Leu Ile Gln Lys Ser Ala Ala Asn
            420                 425                 430

Val Val Leu Phe Asp Ile Phe Val Asn Ile Leu Thr His Asn Leu Ala
        435                 440                 445

Glu Pro Ala Tyr Glu Ala Asp Val Ala Gln Leu Glu Tyr Lys Leu Val
    450                 455                 460

Ala Gly Glu His Gly Leu Ile Ile Arg Val Lys Gly Phe Asn His Lys
465                 470                 475                 480

Leu Pro Leu Leu Phe Gln Leu Ile Ile Asp Tyr Leu Ala Glu Phe Asn
                485                 490                 495

Ser Thr Pro Ala Val Phe Thr Met Ile Thr Glu Gln Leu Lys Lys Thr
            500                 505                 510

Tyr Phe Asn Ile Leu Ile Lys Pro Glu Thr Leu Ala Lys Asp Val Arg
        515                 520                 525

Leu Leu Ile Leu Glu Tyr Ala Arg Trp Ser Met Ile Asp Lys Tyr Gln
    530                 535                 540

Ala Leu Met Asp Gly Leu Ser Leu Glu Ser Leu Leu Ser Phe Val Lys
545                 550                 555                 560

Glu Phe Lys Ser Gln Leu Phe Val Glu Gly Leu Val Gln Gly Asn Val
                565                 570                 575

Thr Ser Thr Glu Ser Met Asp Phe Leu Lys Tyr Val Val Asp Lys Leu
            580                 585                 590
```

```
Asn Phe Lys Pro Leu Glu Gln Glu Met Pro Val Gln Phe Gln Val Val
        595                 600                 605

Glu Leu Pro Ser Gly His His Leu Cys Lys Val Lys Ala Leu Asn Lys
    610                 615                 620

Gly Asp Ala Asn Ser Glu Val Thr Val Tyr Tyr Gln Ser Gly Thr Arg
625                 630                 635                 640

Ser Leu Arg Glu Tyr Thr Leu Met Glu Leu Leu Val Met His Met Glu
                645                 650                 655

Glu Pro Cys Phe Asp Phe Leu Arg Thr Lys Gln Thr Leu Gly Tyr His
            660                 665                 670

Val Tyr Pro Thr Cys Arg Asn Thr Ser Gly Ile Leu Gly Phe Ser Val
        675                 680                 685

Thr Val Gly Thr Gln Ala Thr Lys Tyr Asn Ser Glu Val Val Asp Lys
    690                 695                 700

Lys Ile Glu Glu Phe Leu Ser Ser Phe Glu Glu Lys Ile Glu Asn Leu
705                 710                 715                 720

Thr Glu Glu Ala Phe Asn Thr Gln Val Thr Ala Leu Ile Lys Leu Lys
                725                 730                 735

Glu Cys Glu Asp Thr His Leu Gly Glu Glu Val Asp Arg Asn Trp Asn
            740                 745                 750

Glu Val Val Thr Gln Gln Tyr Leu Phe Asp Arg Leu Ala His Glu Ile
        755                 760                 765

Glu Ala Leu Lys Ser Phe Ser Lys Ser Asp Leu Val Asn Trp Phe Lys
    770                 775                 780

Ala His Arg Gly Pro Gly Ser Lys Met Leu Ser Val His Val Val Gly
785                 790                 795                 800

Tyr Gly Lys Tyr Glu Leu Glu Glu Asp Gly Thr Pro Ser Ser Glu Asp
                805                 810                 815

Ser Asn Ser Ser Cys Glu Val Met Gln Leu Thr Tyr Leu Pro Thr Ser
            820                 825                 830

Pro Leu Leu Ala Asp Cys Ile Ile Pro Ile Thr Asp Ile Arg Ala Phe
        835                 840                 845

Thr Thr Thr Leu Asn Leu Leu Pro Tyr His Lys Ile Val Lys
    850                 855                 860
```

<210> 110
<211> 1077
<212> PRT
<213> Drosophila melanogaster

<400> 110

```
Met Thr Asp Gln Val Lys Tyr Leu Asp Ile Pro Asp Lys Ser Glu Thr
  1               5                  10                  15

Asp Lys Lys Leu Tyr Lys Thr Leu Leu Leu Gly Asn Gly Leu His Ala
```

```
            20                  25                  30

Leu Ile Val Ser Asp Pro Ser Pro Met Pro His Asp Gly Phe Thr Thr
         35                  40                  45

Ser Glu Ser Ser Ser Ser Lys Ser Thr Val Ser Thr Ser Ser Ser Ile
     50                  55                  60

Ile Ser Arg Ser Glu Ser Thr Ser Ser Thr Ser Thr Asp Ser Glu Ser
 65                  70                  75                  80

Ser Glu Glu Ser Ser Ser Glu Glu Gly Asp Glu Lys Leu Ala Ala Cys
                 85                  90                  95

Ala Leu Leu Ile Asp Tyr Gly Ser Phe Ala Glu Pro Thr Lys Tyr Gln
            100                 105                 110

Gly Leu Ala His Phe Leu Glu His Met Ile Phe Met Gly Ser Glu Lys
        115                 120                 125

Tyr Pro Lys Glu Asn Ile Phe Asp Ala His Ile Lys Lys Cys Gly Gly
    130                 135                 140

Phe Ala Asn Ala Asn Thr Asp Cys Glu Asp Thr Leu Phe Tyr Phe Glu
145                 150                 155                 160

Val Ala Glu Lys His Leu Asp Ser Ser Leu Asp Tyr Phe Thr Ala Leu
                165                 170                 175

Met Lys Ala Pro Leu Met Lys Gln Glu Ala Met Gln Arg Glu Arg Ser
            180                 185                 190

Ala Val Asp Ser Glu Phe Gln Gln Ile Leu Gln Asp Asp Glu Thr Arg
        195                 200                 205

Arg Asp Gln Leu Leu Ala Ser Leu Ala Thr Lys Gly Phe Pro His Gly
    210                 215                 220

Thr Phe Ala Trp Gly Asn Met Lys Ser Leu Lys Glu Asn Val Asp Asp
225                 230                 235                 240

Ala Glu Leu His Lys Ile Leu His Glu Ile Arg Lys Glu His Tyr Gly
                245                 250                 255

Ala Asn Arg Met Tyr Val Cys Leu Gln Ala Arg Leu Pro Ile Asp Glu
            260                 265                 270

Leu Glu Ser Leu Val Val Arg His Phe Ser Gly Ile Pro His Asn Glu
        275                 280                 285

Val Lys Ala Pro Asp Leu Ser Ser Phe Asn Tyr Lys Asp Ala Phe Lys
    290                 295                 300

Ala Glu Phe His Glu Gln Val Phe Phe Val Lys Pro Val Glu Asn Glu
305                 310                 315                 320

Thr Lys Leu Glu Leu Thr Trp Val Leu Pro Asn Val Arg Gln Tyr Tyr
                325                 330                 335

Arg Ser Lys Pro Asp Gln Phe Leu Ser Tyr Leu Leu Gly Tyr Glu Gly
            340                 345                 350
```

```
Arg Gly Ser Leu Cys Ala Tyr Leu Arg Arg Arg Leu Trp Ala Leu Gln
        355                 360                 365

Leu Ile Ala Gly Ile Asp Glu Asn Gly Phe Asp Met Asn Ser Met Tyr
    370                 375                 380

Ser Leu Phe Asn Ile Cys Ile Tyr Leu Thr Asp Glu Gly Phe Lys Asn
385                 390                 395                 400

Leu Asp Glu Val Leu Ala Ala Thr Phe Ala Tyr Val Lys Leu Phe Ala
                405                 410                 415

Asn Cys Gly Ser Met Lys Asp Val Tyr Glu Glu Gln Gln Arg Asn Glu
            420                 425                 430

Glu Thr Gly Phe Arg Phe His Ala Gln Arg Pro Ala Phe Asp Asn Val
        435                 440                 445

Gln Glu Leu Val Leu Asn Leu Lys Tyr Phe Pro Pro Lys Asp Ile Leu
    450                 455                 460

Thr Gly Lys Glu Leu Tyr Tyr Glu Tyr Asn Glu Glu His Leu Lys Glu
465                 470                 475                 480

Leu Ile Ser His Leu Asn Glu Met Lys Phe Asn Leu Met Val Thr Ser
                485                 490                 495

Arg Arg Lys Tyr Asp Asp Ile Ser Ala Tyr Asp Lys Thr Glu Glu Trp
            500                 505                 510

Phe Gly Thr Glu Tyr Ala Thr Ile Pro Met Pro Glu Lys Trp Arg Lys
        515                 520                 525

Leu Trp Glu Asp Ser Val Pro Leu Pro Glu Leu Phe Leu Pro Glu Ser
    530                 535                 540

Asn Lys Tyr Val Thr Asp Asp Phe Thr Leu His Trp His Ser Met Gly
545                 550                 555                 560

Arg Pro Glu Val Pro Asp Ser Pro Lys Leu Leu Ile Lys Thr Asp Thr
                565                 570                 575

Cys Glu Leu Trp Phe Arg Gln Asp Asp Lys Phe Asp Leu Pro Glu Ala
            580                 585                 590

His Met Ala Phe Tyr Phe Ile Ser Pro Met Gln Arg Gln Asn Ala Lys
        595                 600                 605

Asn Asp Ala Met Cys Ser Leu Tyr Glu Glu Met Val Arg Phe His Val
    610                 615                 620

Cys Glu Glu Leu Tyr Pro Ala Ile Ser Ala Gly Leu Ser Tyr Ser Leu
625                 630                 635                 640

Ser Thr Ile Glu Lys Gly Leu Leu Leu Lys Val Cys Gly Tyr Asn Glu
                645                 650                 655

Lys Leu His Leu Ile Val Glu Ala Ile Ala Glu Gly Met Leu Asn Val
            660                 665                 670

Ala Glu Thr Leu Asp Glu Asn Met Leu Ser Ala Phe Val Lys Asn Gln
        675                 680                 685
```

```
Arg Lys Ala Phe Phe Asn Ala Leu Ile Lys Pro Lys Ala Leu Asn Arg
    690                 695                 700

Asp Ile Arg Leu Cys Val Leu Glu Arg Ile Arg Trp Leu Met Ile Asn
705                 710                 715                 720

Lys Tyr Lys Cys Leu Ser Ser Val Ile Leu Glu Asp Met Arg Glu Phe
                725                 730                 735

Ala His Gln Phe Pro Lys Glu Leu Tyr Ile Gln Ser Leu Ile Gln Gly
            740                 745                 750

Asn Tyr Thr Glu Glu Ser Ala His Asn Val Met Asn Ser Leu Leu Ser
        755                 760                 765

Arg Leu Asn Cys Lys Gln Ile Arg Glu Arg Gly Arg Phe Leu Glu Asp
    770                 775                 780

Ile Thr Val Lys Leu Pro Val Gly Thr Ser Ile Ile Arg Cys His Ala
785                 790                 795                 800

Leu Asn Val Gln Asp Thr Asn Thr Val Ile Thr Asn Phe Tyr Gln Ile
                805                 810                 815

Gly Pro Asn Thr Val Arg Val Glu Ser Ile Leu Asp Leu Leu Met Met
            820                 825                 830

Phe Val Asp Glu Pro Leu Phe Asp Gln Leu Arg Thr Lys Glu Gln Leu
        835                 840                 845

Gly Tyr His Val Gly Ala Thr Val Arg Leu Asn Tyr Gly Ile Ala Gly
    850                 855                 860

Tyr Ser Ile Met Val Asn Ser Gln Glu Thr Lys Thr Thr Ala Asp Tyr
865                 870                 875                 880

Val Glu Gly Arg Ile Glu Val Phe Arg Ala Lys Met Leu Gln Ile Leu
                885                 890                 895

Arg His Leu Pro Gln Asp Glu Tyr Glu His Thr Arg Asp Ser Leu Ile
            900                 905                 910

Lys Leu Lys Leu Val Ala Asp Leu Ala Leu Ser Thr Glu Met Ser Arg
        915                 920                 925

Asn Trp Asp Glu Ile Ile Asn Glu Ser Tyr Leu Phe Asp Arg Arg Arg
    930                 935                 940

Arg Gln Ile Glu Val Ile Gly His Arg Pro Ala Gly Met Pro Glu Pro
945                 950                 955                 960

Leu Cys Gly Glu Asp Thr Ala Lys Cys Ala Ser Lys Ser Asp Asp Glu
                965                 970                 975

Ser Glu Ser Glu Asn Asp Asp Asp Asp Asp Glu Asp Glu Glu Glu Glu
            980                 985                 990

Glu Ser Ser Glu Glu Glu Glu Glu Glu Glu Lys Glu Lys Glu Gly Leu
        995                1000                1005

Lys Gly Glu Asp Glu Asp Asp Leu Phe Tyr Ser Leu Glu Asn Lys Leu
```

```
   1010                1015                1020

Asn Ile Val Phe Leu Pro Ala Lys Phe Asn Asn Ala Phe Ile Ile Thr
1025                1030                1035                1040

Asp Ile Glu Lys Phe Lys Asp Asp Gln Tyr Val Tyr Pro Gln Gln Lys
                1045                1050                1055

Thr Gln Pro Lys Glu Glu Asp Glu Leu Ile Ser Ala His Ile Ala Asp
            1060                1065                1070

Ala Ile Arg Gln Val
        1075
```

<210> 111
<211> 638
<212> PRT
<213> Homo sapiens

<400> 111

```
Met Ile Leu Phe Lys Gln Ala Thr Tyr Phe Ile Ser Leu Phe Ala Thr
  1               5                  10                  15

Val Ser Cys Gly Cys Leu Thr Gln Leu Tyr Glu Asn Ala Phe Phe Arg
             20                  25                  30

Gly Gly Asp Val Ala Ser Met Tyr Thr Pro Asn Ala Gln Tyr Cys Gln
         35                  40                  45

Met Arg Cys Thr Phe His Pro Arg Cys Leu Leu Phe Ser Phe Leu Pro
     50                  55                  60

Ala Ser Ser Ile Asn Asp Met Glu Lys Arg Phe Gly Cys Phe Leu Lys
 65                  70                  75                  80

Asp Ser Val Thr Gly Thr Leu Pro Lys Val His Arg Thr Gly Ala Val
                 85                  90                  95

Ser Gly His Ser Leu Lys Gln Cys Gly His Gln Ile Ser Ala Cys His
            100                 105                 110

Arg Asp Ile Tyr Lys Gly Val Asp Met Arg Gly Val Asn Phe Asn Val
        115                 120                 125

Ser Lys Val Ser Ser Val Glu Glu Cys Gln Lys Arg Cys Thr Asn Asn
    130                 135                 140

Ile Arg Cys Gln Phe Phe Ser Tyr Ala Thr Gln Thr Phe His Lys Ala
145                 150                 155                 160

Glu Tyr Arg Asn Asn Cys Leu Leu Lys Tyr Ser Pro Gly Gly Thr Pro
                165                 170                 175

Thr Ala Ile Lys Val Leu Ser Asn Val Glu Ser Gly Phe Ser Leu Lys
            180                 185                 190

Pro Cys Ala Leu Ser Glu Ile Gly Cys His Met Asn Ile Phe Gln His
        195                 200                 205

Leu Ala Phe Ser Asp Val Asp Val Ala Arg Val Leu Thr Pro Asp Ala
    210                 215                 220
```

```
Phe Val Cys Arg Thr Ile Cys Thr Tyr His Pro Asn Cys Leu Phe Phe
225                 230                 235                 240

Thr Phe Tyr Thr Asn Val Trp Lys Ile Glu Ser Gln Arg Asn Val Cys
                245                 250                 255

Leu Leu Lys Thr Ser Glu Ser Gly Thr Pro Ser Ser Ser Thr Pro Gln
            260                 265                 270

Glu Asn Thr Ile Ser Gly Tyr Ser Leu Leu Thr Cys Lys Arg Thr Leu
        275                 280                 285

Pro Glu Pro Cys His Ser Lys Ile Tyr Pro Gly Val Asp Phe Gly Gly
    290                 295                 300

Glu Glu Leu Asn Val Thr Phe Val Lys Gly Val Asn Val Cys Gln Glu
305                 310                 315                 320

Thr Cys Thr Lys Met Ile Arg Cys Gln Phe Phe Thr Tyr Ser Leu Leu
                325                 330                 335

Pro Glu Asp Cys Lys Glu Glu Lys Cys Lys Cys Phe Leu Arg Leu Ser
            340                 345                 350

Met Asp Gly Ser Pro Thr Arg Ile Ala Tyr Gly Thr Gln Gly Ser Ser
        355                 360                 365

Gly Tyr Ser Leu Arg Leu Cys Asn Thr Gly Asp Asn Ser Val Cys Thr
    370                 375                 380

Thr Lys Thr Ser Thr Arg Ile Val Gly Gly Thr Asn Ser Ser Trp Gly
385                 390                 395                 400

Glu Trp Pro Trp Gln Val Ser Leu Gln Val Lys Leu Thr Ala Gln Arg
                405                 410                 415

His Leu Cys Gly Gly Ser Leu Ile Gly His Gln Trp Val Leu Thr Ala
            420                 425                 430

Ala His Cys Phe Asp Gly Leu Pro Leu Gln Asp Val Trp Arg Ile Tyr
        435                 440                 445

Ser Gly Ile Leu Asn Leu Ser Asp Ile Thr Lys Asp Thr Pro Phe Ser
    450                 455                 460

Gln Ile Lys Glu Ile Ile Ile His Gln Asn Tyr Lys Val Ser Glu Gly
465                 470                 475                 480

Asn His Asp Ile Ala Leu Ile Lys Leu Gln Ala Pro Leu Asn Tyr Thr
                485                 490                 495

Glu Phe Gln Lys Pro Ile Cys Leu Pro Ser Lys Gly Asp Thr Ser Thr
            500                 505                 510

Ile Tyr Thr Asn Cys Trp Val Thr Gly Trp Gly Phe Ser Lys Glu Lys
        515                 520                 525

Gly Glu Ile Gln Asn Ile Leu Gln Lys Val Asn Ile Pro Leu Val Thr
    530                 535                 540

Asn Glu Glu Cys Gln Lys Arg Tyr Gln Asp Tyr Lys Ile Thr Gln Arg
```

```
545                 550                 555                 560

Met Val Cys Ala Gly Tyr Lys Glu Gly Gly Lys Asp Ala Cys Lys Gly
                565                 570                 575

Asp Ser Gly Gly Pro Leu Val Cys Lys His Asn Gly Met Trp Arg Leu
            580                 585                 590

Val Gly Ile Thr Ser Trp Gly Glu Gly Cys Ala Arg Arg Glu Gln Pro
        595                 600                 605

Gly Val Tyr Thr Lys Val Ala Glu Tyr Met Asp Trp Ile Leu Glu Lys
    610                 615                 620

Thr Gln Ser Ser Asp Gly Lys Ala Gln Met Gln Ser Pro Ala
625                 630                 635


<210> 112
<211> 638
<212> PRT
<213> Homo sapiens

<220>
<221> VARIANT
<222> (160)..(163)
<223> Where Xaa is any amino acid as defined in the
      specification

<400> 112
Met Ile Leu Phe Lys Gln Ala Thr Tyr Phe Ile Ser Leu Phe Ala Thr
  1               5                  10                  15

Val Ser Cys Gly Cys Leu Thr Gln Leu Tyr Glu Asn Ala Phe Phe Arg
             20                  25                  30

Gly Gly Asp Val Ala Ser Met Tyr Thr Pro Asn Ala Gln Tyr Cys Gln
         35                  40                  45

Met Arg Cys Thr Phe His Pro Arg Cys Leu Leu Phe Ser Phe Leu Pro
     50                  55                  60

Ala Ser Ser Ile Asn Asp Met Glu Lys Arg Phe Gly Cys Phe Leu Lys
 65                  70                  75                  80

Asp Ser Val Thr Gly Thr Leu Pro Lys Val His Arg Thr Gly Ala Val
                 85                  90                  95

Ser Gly His Ser Leu Lys Gln Cys Gly His Gln Ile Ser Ala Cys His
            100                 105                 110

Arg Asp Ile Tyr Lys Gly Val Asp Met Arg Gly Val Asn Phe Asn Val
        115                 120                 125

Ser Lys Val Ser Arg Val Glu Glu Cys Gln Lys Arg Cys Thr Asn Asn
    130                 135                 140

Ile Arg Cys Gln Val Phe Ser Tyr Ala Pro His Thr Phe His Lys Xaa
145                 150                 155                 160

Xaa Xaa Xaa Asn Asn Cys Leu Leu Lys Tyr Ser Pro Gly Gly Thr Pro
                165                 170                 175
```

```
Thr Ala Ile Lys Val Leu Ser Asn Val Glu Ser Gly Phe Ser Leu Lys
            180                 185                 190

Pro Cys Ala Leu Ser Glu Ile Gly Cys His Met Asn Ile Phe Gln His
        195                 200                 205

Leu Ala Phe Ser Asp Val Asp Val Ala Arg Val Leu Thr Pro Asp Ala
    210                 215                 220

Phe Val Cys Arg Thr Ile Cys Thr Tyr His Pro Asn Cys Leu Phe Phe
225                 230                 235                 240

Thr Phe Tyr Thr Asn Val Trp Lys Ile Glu Ser Gln Arg Asn Val Cys
                245                 250                 255

Leu Leu Lys Thr Ser Glu Ser Gly Thr Pro Ser Ser Ser Thr Pro Gln
            260                 265                 270

Glu Asn Thr Ile Ser Gly Tyr Ser Leu Leu Thr Cys Lys Arg Thr Leu
        275                 280                 285

Pro Glu Pro Cys His Ser Lys Ile Tyr Pro Gly Val Asp Phe Gly Gly
    290                 295                 300

Glu Glu Leu Asn Val Thr Phe Val Lys Gly Val Asn Val Cys Gln Glu
305                 310                 315                 320

Thr Cys Thr Lys Met Ile Arg Cys Gln Phe Phe Thr Tyr Ser Leu Leu
                325                 330                 335

Pro Glu Asp Cys Lys Glu Glu Lys Cys Lys Cys Phe Leu Arg Leu Ser
            340                 345                 350

Met Asp Gly Ser Pro Thr Arg Ile Ala Tyr Gly Thr Gln Gly Ser Ser
        355                 360                 365

Gly Tyr Ser Leu Arg Leu Cys Asn Thr Gly Asp Asn Ser Val Cys Thr
    370                 375                 380

Thr Lys Thr Ser Thr Arg Ile Val Gly Gly Thr Asn Ser Ser Trp Gly
385                 390                 395                 400

Glu Trp Pro Trp Gln Val Ser Leu Gln Val Lys Leu Thr Ala Gln Arg
                405                 410                 415

His Leu Cys Gly Gly Ser Leu Ile Gly His Gln Trp Val Leu Thr Ala
            420                 425                 430

Ala His Cys Phe Asp Gly Leu Pro Leu Gln Asp Val Trp Arg Ile Tyr
        435                 440                 445

Ser Gly Ile Leu Asn Leu Ser Asp Ile Thr Lys Asp Thr Pro Phe Ser
    450                 455                 460

Gln Ile Lys Glu Ile Ile Ile His Gln Asn Tyr Lys Val Ser Glu Gly
465                 470                 475                 480

Asn His Asp Ile Ala Leu Ile Lys Leu Gln Ala Pro Leu Asn Tyr Thr
                485                 490                 495

Glu Phe Gln Lys Pro Ile Cys Leu Pro Ser Lys Gly Asp Thr Ser Thr
```

```
            500                 505                 510

Ile Tyr Thr Asn Cys Trp Val Thr Gly Trp Gly Phe Ser Lys Glu Lys
        515                 520                 525

Gly Glu Ile Gln Asn Ile Leu Gln Lys Val Asn Ile Pro Leu Val Thr
    530                 535                 540

Asn Glu Glu Cys Gln Lys Arg Tyr Gln Asp Tyr Lys Ile Thr Gln Arg
545                 550                 555                 560

Met Val Cys Ala Gly Tyr Lys Glu Gly Gly Lys Asp Ala Cys Lys Gly
                565                 570                 575

Asp Ser Gly Gly Pro Leu Val Cys Lys His Asn Gly Met Trp Arg Leu
            580                 585                 590

Val Gly Ile Thr Ser Trp Gly Glu Gly Cys Ala Arg Arg Glu Gln Pro
        595                 600                 605

Gly Val Tyr Thr Lys Val Ala Glu Tyr Met Asp Trp Ile Leu Glu Thr
    610                 615                 620

Thr Gln Ser Ser Asp Gly Lys Ala Gln Met Gln Ser Pro Ala
625                 630                 635


<210> 113
<211> 643
<212> PRT
<213> Mus musculus

<400> 113
Met Glu Val Ile Val Leu Phe Arg Ile Ile Ser Phe Arg Gln Ala Val
  1               5                  10                  15

Tyr Phe Met Cys Leu Phe Ala Ala Val Ser Cys Gly Cys Leu Pro Gln
             20                  25                  30

Leu His Lys Asn Thr Phe Phe Arg Gly Gly Asp Val Ser Ala Met Tyr
         35                  40                  45

Thr Pro Ser Ala Arg His Cys Gln Met Met Cys Thr Phe His Pro Arg
     50                  55                  60

Cys Leu Leu Phe Ser Phe Leu Pro Ala Asp Ser Thr Ser Val Thr Asp
 65                  70                  75                  80

Lys Arg Phe Gly Cys Phe Leu Lys Asp Ser Val Thr Gly Met Leu Pro
                85                  90                  95

Arg Val Leu Arg Glu Asn Ala Ile Ser Gly His Ser Leu Lys Gln Cys
            100                 105                 110

Gly His Gln Ile Arg Ala Cys His Arg Asp Ile Tyr Lys Gly Ile Asp
        115                 120                 125

Met Arg Gly Val Asn Phe Asn Val Ser Lys Val Lys Thr Val Glu Glu
    130                 135                 140

Cys Gln Glu Arg Cys Thr Asn Ser Ile His Cys Leu Phe Phe Thr Tyr
145                 150                 155                 160
```

```
Ala Thr Gln Ala Phe Asn Asn Ala Glu Tyr Arg Asn Asn Cys Leu Leu
                165                 170                 175

Lys His Ser Pro Gly Gly Thr Pro Thr Ser Ile Lys Val Leu Ala Asn
            180                 185                 190

Val Glu Ser Gly Phe Ser Leu Lys Pro Cys Ala Asp Ser Glu Ile Gly
        195                 200                 205

Cys His Met Asp Ile Phe Gln His Leu Ala Phe Ser Asp Val Asp Val
    210                 215                 220

Ala Arg Val Ile Ala Pro Asp Ala Phe Val Cys Arg Thr Ile Cys Thr
225                 230                 235                 240

Tyr His Pro Asn Cys Leu Phe Phe Thr Phe Tyr Thr Asn Ala Trp Lys
                245                 250                 255

Ile Glu Ser Gln Arg Asn Val Cys Phe Leu Lys Thr Ser His Ser Gly
            260                 265                 270

Thr Pro Ser Phe Pro Thr Pro Gln Glu Asn Ala Ile Ser Gly Tyr Ser
        275                 280                 285

Leu Leu Thr Cys Lys Gln Thr Leu Pro Glu Pro Cys His Ser Lys Ile
    290                 295                 300

Tyr Ser Glu Val Asp Phe Glu Gly Glu Glu Leu Asn Val Thr Phe Val
305                 310                 315                 320

Gln Gly Ala Asn Leu Cys Gln Glu Thr Cys Thr Lys Thr Ile Arg Cys
                325                 330                 335

Gln Phe Phe Thr Tyr Ser Leu His Pro Glu Asp Cys Arg Gly Glu Lys
            340                 345                 350

Cys Lys Cys Ser Leu Arg Leu Ser Ser Asp Gly Ser Pro Thr Lys Ile
        355                 360                 365

Thr His Gly Met Arg Ala Ser Ser Gly Tyr Ser Leu Arg Leu Cys Arg
    370                 375                 380

Ser Gly Asp His Ser Ala Cys Ala Thr Lys Ala Asn Thr Arg Ile Val
385                 390                 395                 400

Gly Gly Thr Asp Ser Phe Leu Gly Glu Trp Pro Trp Gln Val Ser Leu
                405                 410                 415

Gln Ala Lys Leu Arg Ala Gln Asn His Leu Cys Gly Gly Ser Ile Ile
            420                 425                 430

Gly His Gln Trp Val Leu Thr Ala Ala His Cys Phe Asp Gly Leu Ser
        435                 440                 445

Leu Pro Asp Ile Trp Arg Ile Tyr Gly Gly Ile Leu Asn Ile Ser Glu
    450                 455                 460

Ile Thr Lys Glu Thr Pro Phe Ser Gln Val Lys Glu Ile Ile Ile His
465                 470                 475                 480

Gln Asn Tyr Lys Ile Leu Glu Ser Gly His Asp Ile Ala Leu Leu Lys
```

```
                485                 490                 495

Leu Glu Thr Pro Leu Asn Tyr Thr Asp Phe Gln Lys Pro Ile Cys Leu
            500                 505                 510

Pro Ser Arg Asp Asp Thr Asn Val Val Tyr Thr Asn Cys Trp Val Thr
        515                 520                 525

Gly Trp Gly Phe Thr Glu Glu Lys Gly Glu Ile Gln Asn Ile Leu Gln
    530                 535                 540

Lys Val Asn Ile Pro Leu Val Ser Asn Glu Glu Cys Gln Lys Ser Tyr
545                 550                 555                 560

Arg Asp His Lys Ile Ser Lys Gln Met Ile Cys Ala Gly Tyr Lys Glu
                565                 570                 575

Gly Gly Lys Asp Ala Cys Lys Gly Glu Ser Gly Gly Pro Leu Val Cys
            580                 585                 590

Lys Tyr Asn Gly Ile Trp His Leu Val Gly Thr Thr Ser Trp Gly Glu
        595                 600                 605

Gly Cys Ala Arg Arg Glu Gln Pro Gly Val Tyr Thr Lys Val Ile Glu
    610                 615                 620

Tyr Met Asp Trp Ile Leu Glu Lys Thr Gln Asp Asp Asp Gly Gln Ser
625                 630                 635                 640

Trp Met Lys
```

<210> 114
<211> 638
<212> PRT
<213> Mus musculus

<400> 114

```
Met Ile Leu Phe Asn Arg Val Gly Tyr Phe Val Ser Leu Phe Ala Thr
  1               5                  10                  15

Val Ser Cys Gly Cys Met Thr Gln Leu Tyr Lys Asn Thr Phe Phe Arg
             20                  25                  30

Gly Gly Asp Leu Ala Ala Ile Tyr Thr Pro Asp Ala Gln Tyr Cys Gln
         35                  40                  45

Lys Met Cys Thr Phe His Pro Arg Cys Leu Leu Phe Ser Phe Leu Ala
     50                  55                  60

Val Thr Pro Pro Lys Glu Thr Asn Lys Arg Phe Gly Cys Phe Met Lys
 65                  70                  75                  80

Glu Ser Ile Thr Gly Thr Leu Pro Arg Ile His Arg Thr Gly Ala Ile
                 85                  90                  95

Ser Gly His Ser Leu Lys Gln Cys Gly His Gln Ile Ser Ala Cys His
            100                 105                 110

Arg Asp Ile Tyr Lys Gly Leu Asp Met Arg Gly Ser Asn Phe Asn Ile
        115                 120                 125
```

```
Ser Lys Thr Asp Asn Ile Glu Glu Cys Gln Lys Leu Cys Thr Asn Asn
    130                 135                 140

Phe His Cys Gln Phe Phe Thr Tyr Ala Thr Ser Ala Phe Tyr Arg Pro
145                 150                 155                 160

Glu Tyr Arg Lys Lys Cys Leu Leu Lys His Ser Ala Ser Gly Thr Pro
                165                 170                 175

Thr Ser Ile Lys Ser Ala Asp Asn Leu Val Ser Gly Phe Ser Leu Lys
            180                 185                 190

Ser Cys Ala Leu Ser Glu Ile Gly Cys Pro Met Asp Ile Phe Gln His
        195                 200                 205

Ser Ala Phe Ala Asp Leu Asn Val Ser Gln Val Ile Thr Pro Asp Ala
    210                 215                 220

Phe Val Cys Arg Thr Ile Cys Thr Phe His Pro Asn Cys Leu Phe Phe
225                 230                 235                 240

Thr Phe Tyr Thr Asn Glu Trp Glu Thr Glu Ser Gln Arg Asn Val Cys
                245                 250                 255

Phe Leu Lys Thr Ser Lys Ser Gly Arg Pro Ser Pro Pro Ile Pro Gln
            260                 265                 270

Glu Asn Ala Ile Ser Gly Tyr Ser Leu Leu Thr Cys Arg Lys Thr Arg
        275                 280                 285

Pro Glu Pro Cys His Ser Lys Ile Tyr Ser Gly Val Asp Phe Glu Gly
    290                 295                 300

Glu Glu Leu Asn Val Thr Phe Val Gln Gly Ala Asp Val Cys Gln Glu
305                 310                 315                 320

Thr Cys Thr Lys Thr Ile Arg Cys Gln Phe Phe Ile Tyr Ser Leu Leu
                325                 330                 335

Pro Gln Asp Cys Lys Glu Glu Gly Cys Lys Cys Ser Leu Arg Leu Ser
            340                 345                 350

Thr Asp Gly Ser Pro Thr Arg Ile Thr Tyr Gly Met Gln Gly Ser Ser
        355                 360                 365

Gly Tyr Ser Leu Arg Leu Cys Lys Leu Val Asp Ser Pro Asp Cys Thr
    370                 375                 380

Thr Lys Ile Asn Ala Arg Ile Val Gly Gly Thr Asn Ala Ser Leu Gly
385                 390                 395                 400

Glu Trp Pro Trp Gln Val Ser Leu Gln Val Lys Leu Val Ser Gln Thr
                405                 410                 415

His Leu Cys Gly Gly Ser Ile Ile Gly Arg Gln Trp Val Leu Thr Ala
            420                 425                 430

Ala His Cys Phe Asp Gly Ile Pro Tyr Pro Asp Val Trp Arg Ile Tyr
        435                 440                 445

Gly Gly Ile Leu Ser Leu Ser Glu Ile Thr Lys Glu Thr Pro Ser Ser
```

```
    450                 455                 460

Arg Ile Lys Glu Leu Ile Ile His Gln Glu Tyr Lys Val Ser Glu Gly
465                 470                 475                 480

Asn Tyr Asp Ile Ala Leu Ile Lys Leu Gln Thr Pro Leu Asn Tyr Thr
                485                 490                 495

Glu Phe Gln Lys Pro Ile Cys Leu Pro Ser Lys Ala Asp Thr Asn Thr
            500                 505                 510

Ile Tyr Thr Asn Cys Trp Val Thr Gly Trp Gly Tyr Thr Lys Glu Gln
        515                 520                 525

Gly Glu Thr Gln Asn Ile Leu Gln Lys Ala Thr Ile Pro Leu Val Pro
    530                 535                 540

Asn Glu Glu Cys Gln Lys Lys Tyr Arg Asp Tyr Val Ile Asn Lys Gln
545                 550                 555                 560

Met Ile Cys Ala Gly Tyr Lys Glu Gly Gly Thr Asp Ala Cys Lys Gly
                565                 570                 575

Asp Ser Gly Gly Pro Leu Val Cys Lys His Ser Gly Arg Trp Gln Leu
            580                 585                 590

Val Gly Ile Thr Ser Trp Gly Glu Gly Cys Gly Arg Lys Asp Gln Pro
        595                 600                 605

Gly Val Tyr Thr Lys Val Ser Glu Tyr Met Asp Trp Ile Leu Glu Lys
    610                 615                 620

Thr Gln Ser Ser Asp Val Arg Ala Leu Glu Thr Ser Ser Ala
625                 630                 635


<210> 115
<211> 638
<212> PRT
<213> Rattus norvegicus

<400> 115
Met Ile Leu Phe Lys Gln Val Gly Tyr Phe Val Ser Leu Phe Ala Thr
  1               5                  10                  15

Val Ser Cys Gly Cys Leu Ser Gln Leu Tyr Ala Asn Thr Phe Phe Arg
             20                  25                  30

Gly Gly Asp Leu Ala Ala Ile Tyr Thr Pro Asp Ala Gln His Cys Gln
         35                  40                  45

Lys Met Cys Thr Phe His Pro Arg Cys Leu Leu Phe Ser Phe Leu Ala
     50                  55                  60

Val Ser Pro Thr Lys Glu Thr Asp Lys Arg Phe Gly Cys Phe Met Lys
 65                  70                  75                  80

Glu Ser Ile Thr Gly Thr Leu Pro Arg Ile His Arg Thr Gly Ala Ile
                 85                  90                  95

Ser Gly His Ser Leu Lys Gln Cys Gly His Gln Leu Ser Ala Cys His
            100                 105                 110
```

```
Gln Asp Ile Tyr Glu Gly Leu Asp Met Arg Gly Ser Asn Phe Asn Ile
        115                 120                 125

Ser Lys Thr Asp Ser Ile Glu Glu Cys Gln Lys Leu Cys Thr Asn Asn
    130                 135                 140

Ile His Cys Gln Phe Phe Thr Tyr Ala Thr Lys Ala Phe His Arg Pro
145                 150                 155                 160

Glu Tyr Arg Lys Ser Cys Leu Leu Lys Arg Ser Ser Ser Gly Thr Pro
                165                 170                 175

Thr Ser Ile Lys Pro Val Asp Asn Leu Val Ser Gly Phe Ser Leu Lys
            180                 185                 190

Ser Cys Ala Leu Ser Glu Ile Gly Cys Pro Met Asp Ile Phe Gln His
        195                 200                 205

Phe Ala Phe Ala Asp Leu Asn Val Ser Gln Val Val Thr Pro Asp Ala
    210                 215                 220

Phe Val Cys Arg Thr Val Cys Thr Phe His Pro Asn Cys Leu Phe Phe
225                 230                 235                 240

Thr Phe Tyr Thr Asn Glu Trp Glu Thr Glu Ser Gln Arg Asn Val Cys
                245                 250                 255

Phe Leu Lys Thr Ser Lys Ser Gly Arg Pro Ser Pro Pro Ile Ile Gln
            260                 265                 270

Glu Asn Ala Val Ser Gly Tyr Ser Leu Phe Thr Cys Arg Lys Ala Arg
        275                 280                 285

Pro Glu Pro Cys His Phe Lys Ile Tyr Ser Gly Val Ala Phe Glu Gly
    290                 295                 300

Glu Glu Leu Asn Ala Thr Phe Val Gln Gly Ala Asp Ala Cys Gln Glu
305                 310                 315                 320

Thr Cys Thr Lys Thr Ile Arg Cys Gln Phe Phe Thr Tyr Ser Leu Leu
                325                 330                 335

Pro Gln Asp Cys Lys Ala Glu Gly Cys Lys Cys Ser Leu Arg Leu Ser
            340                 345                 350

Thr Asp Gly Ser Pro Thr Arg Ile Thr Tyr Glu Ala Gln Gly Ser Ser
        355                 360                 365

Gly Tyr Ser Leu Arg Leu Cys Lys Val Val Glu Ser Ser Asp Cys Thr
    370                 375                 380

Thr Lys Ile Asn Ala Arg Ile Val Gly Gly Thr Asn Ser Ser Leu Gly
385                 390                 395                 400

Glu Trp Pro Trp Gln Val Ser Leu Gln Val Lys Leu Val Ser Gln Asn
                405                 410                 415

His Met Cys Gly Gly Ser Ile Ile Gly Arg Gln Trp Ile Leu Thr Ala
            420                 425                 430

Ala His Cys Phe Asp Gly Ile Pro Tyr Pro Asp Val Trp Arg Ile Tyr
```

```
        435                 440                 445

Gly Gly Ile Leu Asn Leu Ser Glu Ile Thr Asn Lys Thr Pro Phe Ser
    450                 455                 460

Ser Ile Lys Glu Leu Ile Ile His Gln Lys Tyr Lys Met Ser Glu Gly
465                 470                 475                 480

Ser Tyr Asp Ile Ala Leu Ile Lys Leu Gln Thr Pro Leu Asn Tyr Thr
                485                 490                 495

Glu Phe Gln Lys Pro Ile Cys Leu Pro Ser Lys Ala Asp Thr Asn Thr
            500                 505                 510

Ile Tyr Thr Asn Cys Trp Val Thr Gly Trp Gly Tyr Thr Lys Glu Arg
        515                 520                 525

Gly Glu Thr Gln Asn Ile Leu Gln Lys Ala Thr Ile Pro Leu Val Pro
    530                 535                 540

Asn Glu Glu Cys Gln Lys Lys Tyr Arg Asp Tyr Val Ile Thr Lys Gln
545                 550                 555                 560

Met Ile Cys Ala Gly Tyr Lys Glu Gly Gly Ile Asp Ala Cys Lys Gly
                565                 570                 575

Asp Ser Gly Gly Pro Leu Val Cys Lys His Ser Gly Arg Trp Gln Leu
            580                 585                 590

Val Gly Ile Thr Ser Trp Gly Glu Gly Cys Ala Arg Lys Glu Gln Pro
        595                 600                 605

Gly Val Tyr Thr Lys Val Ala Glu Tyr Ile Asp Trp Ile Leu Glu Lys
    610                 615                 620

Ile Gln Ser Ser Lys Glu Arg Ala Leu Glu Thr Ser Pro Ala
625                 630                 635


<210> 116
<211> 856
<212> PRT
<213> Drosophila melanogaster

<400> 116
Met Ala Asn Arg Thr Val Lys Glu Ala Lys Asn Val His Gly Thr Asn
  1               5                  10                  15

Pro Gln Tyr Leu Ile Glu Lys Ile Ile Arg Ser Arg Ile Tyr Asp Ser
             20                  25                  30

Lys Tyr Trp Lys Glu Gln Cys Phe Ala Leu Thr Ala Glu Leu Leu Val
         35                  40                  45

Asp Lys Ala Met Glu Leu Arg Phe Val Gly Gly Val Tyr Gly Gly Asn
     50                  55                  60

Ile Lys Pro Thr Gln Phe Leu Cys Leu Thr Leu Lys Met Leu Gln Ile
 65                  70                  75                  80

Gln Pro Glu Lys Asp Ile Val Val Glu Phe Ile Lys Asn Glu Glu Phe
                85                  90                  95
```

```
Lys Tyr Val Arg Ala Leu Gly Ala Phe Tyr Leu Arg Leu Thr Gly Ala
            100                 105                 110

Ala Leu Asp Cys Tyr Lys Tyr Leu Glu Pro Leu Tyr Ile Asp Asn Arg
        115                 120                 125

Lys Leu Arg Arg Gln Asn Arg Ala Gly Gln Phe Glu Ile Val Tyr Met
    130                 135                 140

Asp Glu Tyr Ile Asp Glu Leu Leu Arg Asn Asp Arg Val Cys Asp Ile
145                 150                 155                 160

Ile Leu Pro Arg Ile Gln Lys Arg Ser Ile Leu Glu Glu Asn Asn Glu
                165                 170                 175

Ile Glu Pro Lys Val Ser Val Leu Asp Glu Asp Leu Asp Asp Glu Leu
            180                 185                 190

Pro Ser Asp Glu Glu Lys Ala Asp Glu Thr Asn Arg Pro Lys Glu Asn
        195                 200                 205

Ser Thr Ala Val Arg Arg Pro Arg Arg Val Arg Ser Lys Ser Arg Ser
    210                 215                 220

Arg Ser Arg Glu Arg Glu Arg Arg Ser Gly Gln Gly Asn Ser Ala Arg
225                 230                 235                 240

Ser Arg Asp Tyr Tyr Asp Glu Leu Glu Asp Tyr Asp Arg Gln Arg Asn
                245                 250                 255

Arg Val Arg Asn Arg Asp Thr His Asn Glu Asp Tyr Asp Arg Arg Gln
            260                 265                 270

Asn Asn Gly Arg His Asp Arg Glu Arg Glu Arg Gln Asp Arg Asp Ser
        275                 280                 285

Ile Arg Glu Arg Glu Arg Asp Gly Asp Arg Asp Arg Arg Asp Arg Glu
    290                 295                 300

Arg Glu Arg Glu Arg Asp Arg Gly Arg His Asp Gln Arg Glu Arg Asp
305                 310                 315                 320

Ser Arg Gly Glu His Trp Cys Lys Pro Asp Ala Ser Thr Ser Ser Val
                325                 330                 335

Leu Asp Ser Glu Gln Val Gly Thr Glu Arg Asn Gly Ser Met Pro Arg
            340                 345                 350

Ser Asp Thr Glu Ala Leu Val Ala Asp Val Glu Thr Gly Glu Asp Ser
        355                 360                 365

Ala Pro Arg Ile Leu Asp Ala Ser Ser Ala Ala Ser Ser Glu Gln Val
    370                 375                 380

Asp Pro Pro Pro Val Pro Pro Pro His Asp Tyr Ser Ser Tyr Arg Trp
385                 390                 395                 400

Phe Ile Leu Glu Pro Ala Val Phe Leu Ile Phe Phe Ala Arg Asn Leu
                405                 410                 415

Ile Gly Ala Val Tyr Gln Asn Gln Ile Leu Tyr Gln Thr Cys Ile Thr
```

```
            420                 425                 430

Ile Glu Lys Phe Asn Ala Thr Gln Cys Glu Pro Leu Leu Gly Ile Asp
        435                 440                 445

Arg Gly Ser Asp Ala Asp Lys Glu Val Glu Val Ile Val Gln Thr Tyr
    450                 455                 460

Ser Ala Asn Ile Met Met Thr Thr Ser Leu Leu Glu Ser Ile Ile Pro
465                 470                 475                 480

Ala Phe Ala Ser Leu Phe Leu Gly Pro Trp Ser Asp Lys Phe Gly Arg
                485                 490                 495

Arg Pro Ile Leu Leu Thr Thr Phe Thr Gly Tyr Leu Thr Gly Ala Leu
            500                 505                 510

Ile Leu Ile Val Ile Thr Tyr Ile Thr Arg Ser Thr Asn Ile Ser Pro
        515                 520                 525

Trp Trp Phe Leu Leu Ser Ser Val Pro Ser Val Val Ser Gly Gly Thr
    530                 535                 540

Cys Ala Leu Ile Thr Gly Ile Tyr Cys Tyr Ile Ser Asp Val Ala Lys
545                 550                 555                 560

Glu Arg Lys Lys Ala Leu Arg Met Val Leu Asn Glu Ala Ser Leu Cys
                565                 570                 575

Ala Gly Ile Met Val Gly Asn Val Ala Ser Gly Tyr Ile Tyr Ala Ala
            580                 585                 590

Thr Asn Ala Leu Val Leu Phe Ser Ile Ala Gly Ser Leu Met Met Phe
        595                 600                 605

Ala Leu Met Tyr Val Leu Leu Phe Val Pro Glu Ser Leu Asn Pro Gly
    610                 615                 620

Asp Ile His Thr Gly Ser Arg Val Arg Glu Phe Phe Arg Phe Asp Leu
625                 630                 635                 640

Val Thr Asp Leu Ile Arg Thr Cys Phe Lys Arg Arg Pro Asn Phe Asp
                645                 650                 655

Arg Thr Ile Ile Trp Leu Thr Met Ile Ala Leu Thr Ile Ala Ile Phe
            660                 665                 670

Asp Met Glu Gly Glu Ser Thr Val Asn Tyr Met Phe Val Gln Asp Lys
        675                 680                 685

Phe Asn Trp Thr Ile Lys Asp Phe Ser Leu Phe Asn Ala Ser Arg Ile
    690                 695                 700

Val Ile Gln Ile Val Gly Ser Ile Val Gly Met Leu Val Leu Arg Arg
705                 710                 715                 720

Val Leu Lys Met Ser Ile Val Thr Met Ala Met Leu Ser Leu Ala Cys
                725                 730                 735

Cys Val Leu Glu Ser Thr Val Arg Ala Thr Ala Val Tyr Trp Gln Glu
            740                 745                 750
```

```
Leu Tyr Leu Gly Met Thr Leu Gly Met Met Arg Gly Val Met Gly Pro
        755                 760                 765

Met Cys Arg Ala Ile Leu Ser His Val Ala Pro Ala Thr Glu Val Gly
    770                 775                 780

Lys Ile Phe Ala Leu Thr Thr Ser Met Glu Ser Val Ser Pro Leu Gly
785                 790                 795                 800

Ala Ala Pro Leu Tyr Thr Thr Val Tyr Lys Ala Thr Leu Glu Asn Tyr
                805                 810                 815

Pro Gly Ala Phe Asn Phe Ile Ser Ala Ala Leu Tyr Phe Val Cys Tyr
            820                 825                 830

Ile Leu Ile Ala Val Ile Phe Gly Ile Gln Lys Ser Met Gly Ser Ser
        835                 840                 845

Ser Val Tyr Gln Ala Ile Gly Ser
    850                 855


<210> 117
<211> 140
<212> PRT
<213> Homo sapiens

<400> 117
Met Ala Asn Arg Thr Leu Lys Asp Ala His Ser Val Arg Gly Thr Asn
  1               5                  10                  15

Pro Gln Tyr Leu Val Gly Lys Ile Ile Arg Met Arg Ile Cys Glu Ser
             20                  25                  30

Lys His Trp Lys Glu Glu Cys Phe Gly Leu Met Ala Glu Leu Val Val
         35                  40                  45

Asp Asn Ala Met Glu Leu Met Phe Val Gly Gly Glu Tyr Gly Gly Asn
     50                  55                  60

Ile Lys Pro Thr Pro Phe Leu Cys Leu Ile Leu Lys Met Leu Gln Ile
 65                  70                  75                  80

Gln Ser Glu Lys Gly Ile Thr Ala Glu Phe Ile Glu Asn Glu Asp Phe
                 85                  90                  95

Lys Tyr Val His Met Leu Gly Ala Leu Tyr Met Arg Leu Met Gly Thr
            100                 105                 110

Ala Ile Asp Cys Tyr Lys Tyr Leu Glu Pro Leu Tyr Asn Asp Tyr Arg
        115                 120                 125

Lys Ile Lys Ser Gln Asn Arg Asn Gly Gly Leu Asn
    130                 135                 140


<210> 118
<211> 236
<212> PRT
<213> Homo sapiens

<400> 118
```

```
Met Leu Gln Ile Gln Pro Glu Lys Asp Ile Ile Val Glu Phe Ile Lys
  1               5                  10                  15

Asn Gly Asp Phe Lys Tyr Val Arg Met Leu Gly Ala Leu Tyr Met Arg
             20                  25                  30

Leu Thr Gly Thr Ala Ile Asp Cys Tyr Lys Tyr Leu Glu Pro Leu Tyr
         35                  40                  45

Asn Asp Tyr Arg Lys Ile Lys Ser Gln Asn Arg Asn Gly Glu Phe Glu
     50                  55                  60

Leu Met His Val Asp Glu Phe Ile Asp Glu Leu Leu His Ser Glu Arg
 65                  70                  75                  80

Val Cys Asp Ile Ile Leu Pro Arg Leu Gln Lys Arg Tyr Val Leu Glu
                 85                  90                  95

Glu Ala Glu Gln Leu Glu Pro Arg Val Ser Ala Leu Glu Glu Asp Met
            100                 105                 110

Asp Asp Val Glu Ser Ser Glu Glu Glu Glu Glu Glu Asp Glu Lys Leu
        115                 120                 125

Glu Arg Val Pro Ser Pro Asp His Arg Arg Arg Ser Tyr Arg Asp Leu
    130                 135                 140

Asp Lys Pro Arg Arg Ser Pro Thr Leu Arg Tyr Arg Arg Ser Arg Ser
145                 150                 155                 160

Arg Ser Pro Arg Arg Arg Ser Arg Ser Pro Lys Arg Arg Ser Pro Ser
                165                 170                 175

Pro Arg Arg Glu Arg His Arg Ser Lys Ser Pro Arg Arg His Arg Ser
            180                 185                 190

Arg Ser Arg Asp Arg Arg His Arg Ser Arg Ser Lys Ser Pro Gly His
        195                 200                 205

His Arg Ser His Arg His Arg Ser His Ser Lys Ser Pro Glu Arg Ser
    210                 215                 220

Lys Lys Ser His Lys Lys Ser Arg Arg Gly Asn Glu
225                 230                 235


<210> 119
<211> 320
<212> PRT
<213> Caenorhabditis elegans

<400> 119
Met Ala Asn Arg Thr Glu Lys Ala Ala Lys Thr Val Lys Gly Thr Asn
  1               5                  10                  15

Pro Gln Phe Leu Val Glu Lys Ile Ile Arg Gln Arg Ile Tyr Asp Ser
             20                  25                  30

Met Tyr Trp Lys Glu His Cys Phe Ala Leu Thr Ala Glu Leu Val Val
         35                  40                  45

Asp Lys Gly Met Asp Leu Arg Tyr Ile Gly Gly Ile Tyr Ala Gly Asn
```

```
     50                  55                  60

Ile Lys Pro Thr Pro Phe Leu Cys Leu Ala Leu Lys Met Leu Gln Ile
 65                  70                  75                  80

Gln Pro Asp Lys Asp Ile Val Leu Glu Phe Ile Gln Gln Glu Glu Phe
                85                  90                  95

Lys Tyr Ile Arg Ala Leu Gly Ala Met Tyr Leu Arg Leu Thr Phe Asp
            100                 105                 110

Ser Thr Glu Ile Tyr Lys Tyr Leu Glu Pro Leu Tyr Asn Asp Phe Arg
        115                 120                 125

Lys Leu Arg Tyr Met Asn Lys Met Gly Arg Phe Glu Ala Ile Tyr Met
    130                 135                 140

Asp Asp Phe Ile Asp Asn Leu Leu Arg Glu Asp Arg Tyr Cys Asp Ile
145                 150                 155                 160

Gln Leu Pro Arg Leu Gln Lys Arg Trp Ala Leu Glu Glu Val Asp Met
                165                 170                 175

Leu Pro Ser Tyr Lys Ser Leu Leu Asp Gly Asp Leu Val Ala Met Ser
            180                 185                 190

Asp Ser Asp Ser Glu Glu Glu Glu Val Thr Lys Lys Glu Lys Pro Arg
        195                 200                 205

Leu Thr Ser Arg Arg Arg Ser Arg Ser Arg Asp Arg Glu Arg Asp Val
    210                 215                 220

Gly Asp Arg Arg Glu Val Arg Glu Arg Glu Lys Leu Lys Glu Arg Arg
225                 230                 235                 240

Glu Arg Gly Asp Asp Glu Pro Gly Pro Ser Ser Ser Gly Ser Gly Arg
                245                 250                 255

Arg Asp Asp Arg Asp Asp Arg Arg Arg Asp Arg Asp Arg Ser Arg Asp
            260                 265                 270

Arg Asp Arg Arg Asp Arg Arg Asp Asp Asp Arg Arg Asp Lys Lys Lys
        275                 280                 285

Glu Ser Arg Arg Gly Gly Ala Asp Asn Asp Glu Glu Arg Glu Ile Ala
    290                 295                 300

Glu Ala Asn Ala Leu Arg Ala Lys Leu Gly Leu Ala Pro Leu Glu Arg
305                 310                 315                 320
```

<210> 120
<211> 363
<212> PRT
<213> Arabidopsis thaliana

<400> 120

```
Met Ala Asn Arg Thr Asp Pro Leu Ala Lys Asn Ile Arg Gly Thr Asn
  1               5                  10                  15
```

```
Pro Gln Asn Leu Val Glu Lys Ile Val Arg Thr Lys Ile Tyr Gln His
            20                  25                  30

Thr Phe Trp Lys Glu Gln Cys Phe Gly Leu Thr Ala Glu Thr Leu Val
        35                  40                  45

Asp Lys Ala Met Glu Leu Asp His Leu Gly Gly Thr Phe Gly Gly Ser
    50                  55                  60

Arg Lys Pro Thr Pro Phe Leu Cys Leu Ile Leu Lys Met Leu Gln Ile
65                  70                  75                  80

Gln Pro Glu Lys Glu Ile Val Val Glu Phe Ile Lys Asn Asp Asp Tyr
                85                  90                  95

Lys Tyr Val Arg Ile Leu Gly Ala Phe Tyr Leu Arg Leu Thr Gly Thr
            100                 105                 110

Asp Val Asp Val Tyr Arg Tyr Leu Glu Pro Leu Tyr Asn Asp Tyr Arg
        115                 120                 125

Lys Val Arg Gln Lys Leu Ser Asp Gly Asn Leu Phe Leu Trp Phe Gly
    130                 135                 140

Ile Glu Phe Ser Leu Thr His Val Asp Glu Val Ile Glu Glu Leu Leu
145                 150                 155                 160

Thr Lys Asp Tyr Ser Cys Asp Ile Ala Met Pro Arg Leu Lys Lys Arg
                165                 170                 175

Trp Thr Leu Glu Gln Asn Gly Leu Leu Glu Pro Arg Lys Ser Val Leu
            180                 185                 190

Glu Asp Asp Phe Glu Glu Glu Glu Glu Lys Glu Glu Asn Glu Gly Ile
        195                 200                 205

Ala Asp Gly Ser Glu Asp Glu Met Asp Gln Arg Arg Lys Ser Pro Glu
    210                 215                 220

Arg Glu Arg Glu Arg Asp Arg Asp Arg Arg Arg Asp Ser His Arg His
225                 230                 235                 240

Arg Asp Arg Asp Tyr Asp Arg Asp Tyr Asp Met Asp Arg Asp His Asp
                245                 250                 255

Arg Asp Tyr Glu Arg Glu Arg Gly His Gly Arg Asp Arg Asp Arg Glu
            260                 265                 270

Arg Asp Arg Asp His Tyr Arg Glu Arg Asp Arg Asp Arg Glu Arg Gly
        275                 280                 285

Arg Asp Arg Glu Arg Asp Arg Arg Asp Arg Ala Arg Arg Arg Ser Arg
    290                 295                 300

Ser Arg Ser Arg Asp Arg Lys Arg His Glu Thr Asp Asp Val Arg Asp
305                 310                 315                 320

Arg Glu Glu Pro Lys Lys Lys Lys Glu Lys Lys Glu Lys Met Lys Glu
                325                 330                 335

Asp Gly Thr Asp His Pro Asn Pro Glu Ile Ala Glu Met Asn Arg Leu
```

```
            340                 345                 350

Arg Ala Ser Leu Gly Met Lys Pro Leu Arg Asp
        355                 360


<210> 121
<211> 524
<212> PRT
<213> Homo sapiens

<400> 121
Met Thr Glu Asp Lys Val Thr Gly Thr Leu Val Phe Thr Val Ile Thr
  1               5                  10                  15

Ala Val Leu Gly Ser Phe Gln Phe Gly Tyr Asp Ile Gly Val Ile Asn
             20                  25                  30

Ala Pro Gln Gln Val Ile Ile Ser His Tyr Arg His Val Leu Gly Val
         35                  40                  45

Pro Leu Asp Asp Arg Lys Ala Ile Asn Asn Tyr Val Ile Asn Ser Thr
     50                  55                  60

Asp Glu Leu Pro Thr Ile Ser Tyr Ser Met Asn Pro Lys Pro Thr Pro
 65                  70                  75                  80

Trp Ala Glu Glu Glu Thr Val Ala Ala Ala Gln Leu Ile Thr Met Leu
                 85                  90                  95

Trp Ser Leu Ser Val Ser Ser Phe Ala Val Gly Gly Met Thr Ala Ser
            100                 105                 110

Phe Phe Gly Gly Trp Leu Gly Asp Thr Leu Gly Arg Ile Lys Ala Met
        115                 120                 125

Leu Val Ala Asn Ile Leu Ser Leu Val Gly Ala Leu Leu Met Gly Phe
    130                 135                 140

Ser Lys Leu Gly Pro Ser His Ile Leu Ile Ile Ala Gly Arg Ser Ile
145                 150                 155                 160

Ser Gly Leu Tyr Cys Gly Leu Ile Ser Gly Leu Val Pro Met Tyr Ile
                165                 170                 175

Gly Glu Ile Ala Pro Thr Ala Leu Arg Gly Ala Leu Gly Thr Phe His
            180                 185                 190

Gln Leu Ala Ile Val Thr Gly Ile Leu Ile Ser Gln Ile Ile Gly Leu
        195                 200                 205

Glu Phe Ile Leu Gly Asn Tyr Asp Leu Trp His Ile Leu Leu Gly Leu
    210                 215                 220

Ser Gly Val Arg Ala Ile Leu Gln Ser Leu Leu Leu Phe Phe Cys Pro
225                 230                 235                 240

Glu Ser Pro Arg Tyr Leu Tyr Ile Lys Leu Asp Glu Glu Val Lys Ala
                245                 250                 255

Lys Gln Ser Leu Lys Arg Leu Arg Gly Tyr Asp Asp Val Thr Lys Asp
            260                 265                 270
```

```
Ile Asn Glu Met Arg Lys Glu Arg Glu Glu Ala Ser Ser Glu Gln Lys
        275                 280                 285

Val Ser Ile Ile Gln Leu Phe Thr Asn Ser Ser Tyr Arg Gln Pro Ile
    290                 295                 300

Leu Val Ala Leu Met Leu His Val Ala Gln Gln Phe Ser Gly Ile Asn
305                 310                 315                 320

Gly Ile Phe Tyr Tyr Ser Thr Ser Ile Phe Gln Thr Ala Gly Ile Ser
                325                 330                 335

Lys Pro Val Tyr Ala Thr Ile Gly Val Gly Ala Val Asn Met Val Phe
            340                 345                 350

Thr Ala Val Ser Val Phe Leu Val Glu Lys Ala Gly Arg Arg Ser Leu
        355                 360                 365

Phe Leu Ile Gly Met Ser Gly Met Phe Val Cys Ala Ile Phe Met Ser
    370                 375                 380

Val Gly Leu Val Leu Leu Asn Lys Phe Ser Trp Met Ser Tyr Val Ser
385                 390                 395                 400

Met Ile Ala Ile Phe Leu Phe Val Ser Phe Phe Glu Ile Gly Pro Gly
                405                 410                 415

Pro Ile Pro Trp Phe Met Val Ala Glu Phe Phe Ser Gln Gly Pro Arg
            420                 425                 430

Pro Ala Ala Leu Ala Ile Ala Ala Phe Ser Asn Trp Thr Cys Asn Phe
        435                 440                 445

Ile Val Ala Leu Cys Phe Gln Tyr Ile Ala Asp Phe Cys Gly Pro Tyr
    450                 455                 460

Val Phe Phe Leu Phe Ala Gly Val Leu Leu Ala Phe Thr Leu Phe Thr
465                 470                 475                 480

Phe Phe Lys Val Pro Glu Thr Lys Gly Lys Ser Phe Glu Glu Ile Ala
                485                 490                 495

Ala Glu Phe Gln Lys Lys Ser Gly Ser Ala His Arg Pro Lys Ala Ala
            500                 505                 510

Val Glu Met Lys Phe Leu Gly Ala Thr Glu Thr Val
        515                 520


<210> 122
<211> 523
<212> PRT
<213> Mus musculus

<400> 122
Met Ser Glu Asp Lys Ile Thr Gly Thr Leu Ala Phe Thr Val Phe Thr
  1               5                  10                  15

Ala Val Leu Ser Ser Phe Gln Phe Gly Tyr Asp Ile Gly Val Ile Asn
             20                  25                  30
```

```
Ala Pro Gln Glu Val Ile Ile Ser His Tyr Arg His Val Leu Gly Val
         35                  40                  45

Pro Leu Asp Asp Arg Lys Ala Ala Ile Asn Tyr Asp Val Asn Gly Thr
     50                  55                  60

Asp Thr Pro Leu Thr Val Thr Pro Ala Tyr Thr Thr Pro Ala Pro Trp
 65                  70                  75                  80

Asp Glu Glu Glu Thr Glu Gly Ser Ala His Ile Val Thr Met Leu Trp
                 85                  90                  95

Ser Leu Ser Val Ser Ser Phe Ala Val Gly Gly Met Val Ala Ser Phe
            100                 105                 110

Phe Gly Gly Trp Leu Gly Asp Lys Leu Gly Arg Ile Lys Ala Met Leu
        115                 120                 125

Ala Ala Asn Ser Leu Ser Leu Thr Gly Ala Leu Leu Met Gly Cys Ser
    130                 135                 140

Lys Phe Gly Pro Ala His Ala Leu Ile Ile Ala Gly Arg Ser Val Ser
145                 150                 155                 160

Gly Leu Tyr Cys Gly Leu Ile Ser Gly Leu Val Pro Met Tyr Ile Gly
                165                 170                 175

Glu Ile Ala Pro Thr Thr Leu Arg Gly Ala Leu Gly Thr Leu His Gln
            180                 185                 190

Leu Ala Leu Val Thr Gly Ile Leu Ile Ser Gln Ile Ala Gly Leu Ser
        195                 200                 205

Phe Ile Leu Gly Asn Gln Asp His Trp His Ile Leu Leu Gly Leu Ser
    210                 215                 220

Ala Val Pro Ala Leu Leu Gln Cys Leu Leu Leu Leu Phe Cys Pro Glu
225                 230                 235                 240

Ser Pro Arg Tyr Leu Tyr Ile Lys Leu Glu Glu Glu Val Arg Ala Lys
                245                 250                 255

Lys Ser Leu Lys Arg Leu Arg Gly Thr Glu Asp Val Thr Lys Asp Ile
            260                 265                 270

Asn Glu Met Lys Lys Glu Lys Glu Glu Ala Ser Thr Glu Gln Lys Val
        275                 280                 285

Ser Val Ile Gln Leu Phe Thr Asp Ala Asn Tyr Arg Gln Pro Ile Leu
    290                 295                 300

Val Ala Leu Met Leu His Met Ala Gln Gln Phe Ser Gly Ile Asn Gly
305                 310                 315                 320

Ile Phe Tyr Tyr Ser Thr Ser Ile Phe Gln Thr Ala Gly Ile Ser Gln
                325                 330                 335

Pro Val Tyr Ala Thr Ile Gly Val Gly Ala Ile Asn Met Ile Phe Thr
            340                 345                 350

Ala Val Ser Val Leu Leu Val Glu Lys Ala Gly Arg Arg Thr Leu Phe
        355                 360                 365
```

```
Leu Thr Gly Met Ile Gly Met Phe Phe Cys Thr Ile Phe Met Ser Val
    370                 375                 380

Gly Leu Val Leu Leu Asp Lys Phe Ala Trp Met Ser Tyr Val Ser Met
385                 390                 395                 400

Thr Ala Ile Phe Leu Phe Val Ser Phe Phe Glu Ile Gly Pro Gly Pro
                405                 410                 415

Ile Pro Trp Phe Met Val Ala Glu Phe Phe Ser Gln Gly Pro Arg Pro
            420                 425                 430

Thr Ala Leu Ala Leu Ala Ala Phe Ser Asn Trp Val Cys Asn Phe Val
        435                 440                 445

Ile Ala Leu Cys Phe Gln Tyr Ile Ala Asp Phe Leu Gly Pro Tyr Val
    450                 455                 460

Phe Phe Leu Phe Ala Gly Val Val Leu Val Phe Thr Leu Phe Thr Phe
465                 470                 475                 480

Phe Lys Val Pro Glu Thr Lys Gly Lys Ser Phe Glu Glu Ile Ala Ala
                485                 490                 495

Glu Phe Arg Lys Lys Ser Gly Ser Ala Pro Pro Arg Lys Ala Ala Val
            500                 505                 510

Gln Met Glu Phe Leu Ala Ser Ser Glu Ser Val
        515                 520


<210> 123
<211> 523
<212> PRT
<213> Mus musculus

<400> 123
Met Ser Glu Asp Lys Ile Thr Gly Thr Leu Ala Phe Thr Val Phe Thr
  1               5                  10                  15

Ala Val Leu Ser Ser Phe Gln Phe Gly Tyr Asp Ile Gly Val Ile Asn
             20                  25                  30

Ala Pro Gln Glu Val Ile Ile Ser His Tyr Arg His Val Leu Gly Val
         35                  40                  45

Pro Leu Asp Asp Arg Lys Ala Ala Ile Asn Tyr Asp Val Asn Gly Thr
     50                  55                  60

Asp Thr Pro Leu Thr Val Thr Pro Ala Tyr Thr Thr Pro Ala Pro Trp
 65                  70                  75                  80

Asp Glu Glu Glu Thr Glu Gly Ser Ala His Ile Val Thr Met Leu Trp
                 85                  90                  95

Ser Leu Ser Val Ser Ser Phe Ala Val Asp Gly Met Val Ala Ser Phe
            100                 105                 110

Phe Gly Gly Trp Leu Gly Asp Lys Leu Gly Arg Ile Lys Ala Met Leu
        115                 120                 125
```

```
Ala Ala Asn Ser Leu Ser Leu Thr Gly Ala Leu Leu Met Gly Cys Ser
    130                 135                 140

Lys Phe Gly Pro Ala His Ala Leu Ile Ile Ala Gly Arg Ser Val Ser
145                 150                 155                 160

Gly Leu Tyr Cys Gly Leu Ile Ser Gly Leu Val Pro Met Tyr Ile Gly
                165                 170                 175

Glu Ile Ala Pro Thr Thr Leu Arg Gly Ala Leu Gly Thr Leu His Gln
            180                 185                 190

Leu Ala Leu Val Thr Gly Ile Leu Ile Ser Gln Ile Ala Gly Leu Ser
        195                 200                 205

Phe Ile Leu Gly Asn Gln Asp His Trp His Ile Leu Leu Gly Leu Ser
    210                 215                 220

Ala Val Pro Ala Leu Leu Gln Cys Leu Leu Leu Leu Phe Cys Pro Glu
225                 230                 235                 240

Ser Pro Arg Tyr Leu Tyr Ile Lys Leu Glu Glu Glu Val Arg Ala Lys
                245                 250                 255

Lys Ser Leu Lys Arg Leu Arg Gly Thr Glu Asp Val Thr Lys Asp Ile
            260                 265                 270

Asn Glu Met Lys Lys Glu Lys Glu Glu Ala Ser Thr Glu Gln Lys Val
        275                 280                 285

Ser Val Ile Gln Leu Phe Thr Asp Ala Asn Tyr Arg Gln Pro Ile Leu
    290                 295                 300

Val Ala Leu Met Leu His Met Ala Gln Gln Phe Ser Gly Ile Asn Gly
305                 310                 315                 320

Ile Phe Tyr Tyr Ser Thr Thr Ile Phe Gln Thr Ala Gly Ile Ser Gln
                325                 330                 335

Pro Val Tyr Ala Thr Ile Gly Val Gly Ala Ile Asn Met Ile Phe Thr
            340                 345                 350

Ala Val Ser Val Leu Leu Val Glu Lys Ala Gly Arg Arg Thr Leu Phe
        355                 360                 365

Leu Thr Gly Met Ile Gly Met Phe Phe Cys Thr Ile Phe Met Ser Val
    370                 375                 380

Gly Leu Val Leu Leu Asp Lys Phe Ala Trp Met Ser Tyr Val Ser Met
385                 390                 395                 400

Thr Ala Ile Phe Leu Phe Val Ser Phe Phe Glu Ile Gly Pro Gly Pro
                405                 410                 415

Ile Pro Trp Phe Met Val Ala Glu Phe Phe Ser Gln Gly Pro Arg Pro
            420                 425                 430

Thr Ala Leu Ala Leu Ala Ala Phe Ser Asn Trp Val Cys Asn Phe Val
        435                 440                 445

Ile Ala Leu Cys Phe Gln Tyr Ile Ala Asp Phe Leu Gly Pro Tyr Val
    450                 455                 460
```

```
Phe Phe Leu Phe Ala Gly Val Val Leu Val Phe Thr Leu Phe Thr Phe
465                 470                 475                 480

Phe Lys Val Pro Glu Thr Lys Gly Lys Ser Phe Glu Glu Ile Ala Ala
                485                 490                 495

Glu Phe Arg Lys Lys Ser Gly Ser Ala Pro Pro Arg Lys Ala Ala Val
            500                 505                 510

Gln Met Glu Phe Leu Ala Ser Ser Glu Ser Val
        515                 520
```

<210> 124
<211> 522
<212> PRT
<213> Rattus norvegicus

<400> 124

```
Met Ser Glu Asp Lys Ile Thr Gly Thr Leu Ala Phe Thr Val Phe Thr
  1               5                  10                  15

Ala Val Leu Gly Ser Phe Gln Phe Gly Tyr Asp Ile Gly Val Ile Asn
             20                  25                  30

Ala Pro Gln Glu Val Ile Ile Ser His Tyr Arg His Val Leu Gly Val
         35                  40                  45

Pro Leu Asp Asp Arg Arg Ala Thr Ile Asn Tyr Asp Ile Asn Gly Thr
     50                  55                  60

Asp Thr Pro Leu Ile Val Thr Pro Ala His Thr Thr Pro Asp Ala Trp
 65                  70                  75                  80

Glu Glu Glu Thr Glu Gly Ser Ala His Ile Val Thr Met Leu Trp Ser
                 85                  90                  95

Leu Ser Val Ser Ser Phe Ala Val Gly Gly Met Val Ala Ser Phe Phe
            100                 105                 110

Gly Gly Trp Leu Gly Asp Lys Leu Gly Arg Ile Lys Ala Met Leu Ala
        115                 120                 125

Ala Asn Ser Leu Ser Leu Thr Gly Ala Leu Leu Met Gly Cys Ser Lys
    130                 135                 140

Phe Gly Pro Ala His Ala Leu Ile Ile Ala Gly Arg Ser Val Ser Gly
145                 150                 155                 160

Leu Tyr Cys Gly Leu Ile Ser Gly Leu Val Pro Met Tyr Ile Gly Glu
                165                 170                 175

Ile Ala Pro Thr Thr Leu Arg Gly Ala Leu Gly Thr Leu His Gln Leu
            180                 185                 190

Ala Leu Val Thr Gly Ile Leu Ile Ser Gln Ile Ala Gly Leu Ser Phe
        195                 200                 205

Ile Leu Gly Asn Gln Asp Tyr Trp His Ile Leu Leu Gly Leu Ser Ala
    210                 215                 220
```

```
Val Pro Ala Leu Leu Gln Cys Leu Leu Leu Leu Phe Cys Pro Glu Ser
225                 230                 235                 240

Pro Arg Tyr Leu Tyr Leu Lys Leu Glu Glu Glu Val Arg Ala Lys Lys
                245                 250                 255

Ser Leu Lys Arg Leu Arg Gly Thr Glu Asp Ile Thr Lys Asp Ile Asn
            260                 265                 270

Glu Met Arg Lys Glu Lys Glu Glu Ala Ser Thr Glu Gln Lys Val Ser
        275                 280                 285

Val Ile Gln Leu Phe Thr Asp Pro Asn Tyr Arg Gln Pro Ile Val Val
    290                 295                 300

Ala Leu Met Leu His Leu Ala Gln Gln Phe Ser Gly Ile Asn Gly Ile
305                 310                 315                 320

Phe Tyr Tyr Ser Thr Ser Ile Phe Gln Thr Ala Gly Ile Ser Gln Pro
                325                 330                 335

Val Tyr Ala Thr Ile Gly Val Gly Ala Ile Asn Met Ile Phe Thr Ala
            340                 345                 350

Val Ser Val Leu Leu Val Glu Lys Ala Gly Arg Arg Thr Leu Phe Leu
        355                 360                 365

Ala Gly Met Ile Gly Met Phe Phe Cys Ala Val Phe Met Ser Leu Gly
    370                 375                 380

Leu Val Leu Leu Asp Lys Phe Thr Trp Met Ser Tyr Val Ser Met Thr
385                 390                 395                 400

Ala Ile Phe Leu Phe Val Ser Phe Phe Glu Ile Gly Pro Gly Pro Ile
                405                 410                 415

Pro Trp Phe Met Val Ala Glu Phe Phe Ser Gln Gly Pro Arg Pro Thr
            420                 425                 430

Ala Leu Ala Leu Ala Ala Phe Ser Asn Trp Val Cys Asn Phe Ile Ile
        435                 440                 445

Ala Leu Cys Phe Gln Tyr Ile Ala Asp Phe Leu Gly Pro Tyr Val Phe
    450                 455                 460

Phe Leu Phe Ala Gly Val Val Leu Val Phe Thr Leu Phe Thr Phe Phe
465                 470                 475                 480

Lys Val Pro Glu Thr Lys Gly Lys Ser Phe Asp Glu Ile Ala Ala Glu
                485                 490                 495

Phe Arg Lys Lys Ser Gly Ser Ala Pro Pro Arg Lys Ala Thr Val Gln
            500                 505                 510

Met Glu Phe Leu Gly Ser Ser Glu Thr Val
        515                 520
```

<210> 125
<211> 522
<212> PRT
<213> Rattus norvegicus

<400> 125

```
Met Ser Glu Asp Lys Ile Thr Gly Thr Leu Ala Phe Thr Val Phe Thr
  1               5                  10                  15

Ala Val Leu Gly Ser Phe Gln Phe Gly Tyr Asp Ile Gly Val Ile Asn
             20                  25                  30

Ala Pro Gln Glu Val Ile Ile Ser His Tyr Arg His Val Leu Gly Val
         35                  40                  45

Pro Leu Asp Asp Arg Arg Ala Thr Ile Asn Tyr Asp Ile Asn Gly Thr
     50                  55                  60

Asp Thr Pro Leu Ile Val Thr Pro Ala His Thr Thr Pro Asp Ala Trp
 65                  70                  75                  80

Glu Glu Glu Thr Glu Gly Ser Ala His Ile Val Thr Met Leu Trp Ser
                 85                  90                  95

Leu Ser Val Ser Ser Phe Ala Val Gly Gly Met Val Ala Ser Phe Phe
            100                 105                 110

Gly Gly Trp Leu Gly Asp Lys Leu Gly Arg Ile Lys Ala Met Leu Ala
        115                 120                 125

Ala Asn Ser Leu Ser Leu Thr Gly Ala Leu Leu Met Gly Cys Ser Lys
    130                 135                 140

Phe Gly Pro Ala His Ala Leu Ile Ile Ala Gly Arg Ser Val Ser Gly
145                 150                 155                 160

Leu Tyr Cys Gly Leu Ile Ser Gly Leu Val Pro Met Tyr Ile Gly Glu
                165                 170                 175

Ile Ala Pro Thr Thr Leu Arg Gly Ala Leu Gly Thr Leu His Gln Leu
            180                 185                 190

Ala Leu Val Thr Gly Ile Leu Ile Ser Gln Ile Ala Gly Leu Ser Phe
        195                 200                 205

Ile Leu Gly Asn Gln Asp Tyr Trp His Ile Leu Leu Gly Leu Ser Ala
    210                 215                 220

Val Pro Ala Leu Leu Gln Cys Leu Leu Leu Leu Phe Cys Pro Glu Ser
225                 230                 235                 240

Pro Arg Tyr Leu Tyr Leu Asn Leu Glu Glu Glu Val Arg Ala Lys Lys
                245                 250                 255

Ser Leu Lys Arg Leu Arg Gly Thr Glu Asp Ile Thr Lys Asp Ile Asn
            260                 265                 270

Glu Met Arg Lys Glu Lys Glu Glu Ala Ser Thr Glu Gln Lys Val Ser
        275                 280                 285

Val Ile Gln Leu Phe Thr Asp Pro Asn Tyr Arg Gln Pro Ile Val Val
    290                 295                 300

Ala Leu Met Leu His Leu Ala Gln Gln Phe Ser Gly Ile Asn Gly Ile
305                 310                 315                 320
```

```
Phe Tyr Tyr Ser Thr Ser Ile Phe Gln Thr Ala Gly Ile Ser Gln Pro
                325                 330                 335

Val Tyr Ala Thr Ile Gly Val Gly Ala Ile Asn Met Ile Phe Thr Ala
            340                 345                 350

Val Ser Val Leu Leu Val Glu Lys Ala Gly Arg Arg Thr Leu Phe Leu
        355                 360                 365

Ala Gly Met Ile Gly Met Phe Phe Cys Ala Val Phe Met Ser Leu Gly
    370                 375                 380

Leu Val Leu Leu Asp Lys Phe Thr Trp Met Ser Tyr Val Ser Met Thr
385                 390                 395                 400

Ala Ile Phe Leu Phe Val Ser Phe Phe Glu Ile Gly Pro Gly Pro Ile
                405                 410                 415

Pro Trp Phe Met Val Ala Glu Phe Phe Ser Gln Gly Pro Arg Pro Thr
            420                 425                 430

Ala Leu Ala Leu Ala Ala Phe Ser Asn Trp Val Cys Asn Phe Ile Ile
        435                 440                 445

Ala Leu Cys Phe Gln Tyr Ile Ala Asp Phe Leu Gly Pro Tyr Val Phe
    450                 455                 460

Phe Leu Phe Ala Gly Val Val Leu Val Phe Thr Leu Phe Thr Phe Phe
465                 470                 475                 480

Lys Val Pro Glu Thr Lys Gly Lys Ser Phe Asp Glu Ile Ala Ala Glu
                485                 490                 495

Phe Arg Lys Lys Ser Gly Ser Ala Pro Pro Arg Lys Ala Thr Val Gln
            500                 505                 510

Met Glu Phe Leu Gly Ser Ser Glu Thr Val
        515                 520


<210> 126
<211> 592
<212> PRT
<213> Mus musculus

<400> 126
Met Ala Val Pro Pro Leu Leu Arg Gly Ala Leu Leu Leu Trp Gln Leu
  1               5                  10                  15

Leu Ala Thr Gly Gly Ala Ala Leu Glu Ile Gly Arg Phe Asp Pro Glu
             20                  25                  30

Arg Gly Arg Gly Pro Ala Pro Cys Gln Ala Met Glu Ile Pro Met Cys
         35                  40                  45

Arg Gly Ile Gly Tyr Asn Leu Thr Arg Met Pro Asn Leu Leu Gly His
     50                  55                  60

Thr Ser Gln Gly Glu Ala Ala Ala His Cys Ala Glu Phe Ser Pro Leu
 65                  70                  75                  80

Val Gln Tyr Gly Cys His Ser His Leu Arg Phe Phe Phe Cys Ser Leu
```

```
                85                  90                  95

Tyr Ala Pro Met Cys Thr Asp Gln Val Ser Thr Pro Ile Pro Ala Cys
            100                 105                 110

Arg Pro Met Cys Glu Gln Ala Arg Leu Arg Cys Ala Pro Ile Met Glu
        115                 120                 125

Gln Phe Asn Phe Gly Trp Pro Asp Ser Leu Asp Cys Ala Arg Leu Pro
    130                 135                 140

Thr Arg Asn Asp Pro His Ala Leu Cys Met Glu Ala Pro Glu Asn Ala
145                 150                 155                 160

Thr Ala Gly Pro Thr Glu Pro His Lys Gly Leu Gly Met Leu Pro Val
                165                 170                 175

Ala Pro Arg Pro Ala Arg Pro Pro Gly Asp Ser Ala Pro Gly Pro Gly
            180                 185                 190

Ser Gly Gly Thr Cys Asp Asn Pro Glu Lys Phe Gln Tyr Val Glu Lys
        195                 200                 205

Ser Arg Ser Cys Ala Pro Arg Cys Gly Pro Gly Val Glu Val Phe Trp
    210                 215                 220

Ser Arg Arg Asp Lys Asp Phe Ala Leu Val Trp Met Ala Val Trp Ser
225                 230                 235                 240

Ala Leu Cys Phe Phe Ser Thr Ala Phe Thr Val Phe Thr Phe Leu Leu
                245                 250                 255

Glu Pro His Arg Phe Gln Tyr Pro Glu Arg Pro Ile Ile Phe Leu Ser
            260                 265                 270

Met Cys Tyr Asn Val Tyr Ser Leu Ala Phe Leu Ile Arg Ala Val Ala
        275                 280                 285

Gly Ala Gln Ser Val Ala Cys Asp Gln Glu Ala Gly Ala Leu Tyr Val
    290                 295                 300

Ile Gln Glu Gly Leu Glu Asn Thr Gly Cys Thr Leu Val Phe Leu Leu
305                 310                 315                 320

Leu Tyr Tyr Phe Gly Met Ala Ser Ser Leu Trp Trp Val Val Leu Thr
                325                 330                 335

Leu Thr Trp Phe Leu Ala Ala Gly Lys Lys Trp Gly His Glu Ala Ile
            340                 345                 350

Glu Ala His Gly Ser Tyr Phe His Met Ala Ala Trp Gly Leu Pro Ala
        355                 360                 365

Leu Lys Thr Ile Val Val Leu Thr Leu Arg Lys Val Ala Gly Asp Glu
    370                 375                 380

Leu Thr Gly Leu Cys Tyr Val Ala Ser Met Asp Pro Ala Ala Leu Thr
385                 390                 395                 400

Gly Phe Val Leu Val Pro Leu Ser Cys Tyr Leu Val Leu Gly Thr Ser
                405                 410                 415
```

```
Phe Leu Leu Thr Gly Phe Val Ala Leu Phe His Ile Arg Lys Ile Met
            420                 425                 430

Lys Thr Gly Gly Thr Asn Thr Glu Lys Leu Glu Lys Leu Met Val Lys
        435                 440                 445

Ile Gly Val Phe Ser Ile Leu Tyr Thr Val Pro Ala Thr Cys Val Ile
    450                 455                 460

Val Cys Tyr Val Tyr Glu Arg Leu Asn Met Asp Phe Trp Arg Leu Arg
465                 470                 475                 480

Ala Thr Glu Gln Pro Cys Thr Ala Ala Thr Val Pro Gly Gly Arg Arg
                485                 490                 495

Asp Cys Ser Leu Pro Gly Gly Ser Val Pro Thr Val Ala Val Phe Met
            500                 505                 510

Leu Lys Ile Phe Met Ser Leu Val Val Gly Ile Thr Ser Gly Val Trp
        515                 520                 525

Val Trp Ser Ser Lys Thr Phe Gln Thr Trp Gln Ser Leu Cys Tyr Arg
    530                 535                 540

Lys Met Ala Ala Gly Arg Ala Arg Ala Lys Ala Cys Arg Thr Pro Gly
545                 550                 555                 560

Gly Tyr Gly Arg Gly Thr His Cys His Tyr Lys Ala Pro Thr Val Val
                565                 570                 575

Leu His Met Thr Lys Thr Asp Pro Ser Leu Glu Asn Pro Thr His Pro
            580                 585                 590
```

<210> 127
<211> 592
<212> PRT
<213> Mus musculus

```
<400> 127
Met Ala Val Pro Pro Leu Leu Arg Gly Ala Leu Leu Leu Trp Gln Leu
  1               5                  10                  15

Leu Ala Thr Gly Gly Ala Ala Leu Glu Ile Gly Arg Phe Asp Pro Glu
             20                  25                  30

Arg Gly Arg Gly Pro Ala Pro Cys Gln Ala Met Glu Ile Pro Met Cys
         35                  40                  45

Arg Gly Ile Gly Tyr Asn Leu Thr Arg Met Pro Asn Leu Leu Gly His
     50                  55                  60

Thr Ser Gln Gly Glu Ala Ala Ala Gln Leu Ala Glu Phe Ser Pro Leu
 65                  70                  75                  80

Val Gln Tyr Gly Cys His Ser His Leu Arg Phe Phe Leu Cys Ser Leu
                 85                  90                  95

Tyr Ala Pro Met Cys Thr Asp Gln Val Ser Thr Pro Ile Pro Ala Cys
```

```
            100                 105                 110

Arg Pro Met Cys Glu Gln Ala Arg Leu Arg Cys Ala Pro Ile Met Glu
        115                 120                 125

Gln Phe Asn Phe Gly Trp Pro Asp Ser Leu Asp Cys Ala Arg Leu Pro
    130                 135                 140

Thr Arg Asn Asp Pro His Ala Leu Cys Met Glu Ala Pro Glu Asn Ala
145                 150                 155                 160

Thr Ala Gly Pro Thr Glu Pro His Lys Gly Leu Gly Met Leu Pro Val
                165                 170                 175

Ala Pro Arg Pro Ala Arg Pro Pro Gly Asp Ser Ala Pro Gly Pro Gly
            180                 185                 190

Ser Gly Gly Thr Cys Asp Asn Pro Glu Lys Phe Gln Tyr Val Glu Lys
        195                 200                 205

Ser Arg Ser Cys Ala Pro Arg Cys Gly Pro Gly Val Glu Val Phe Trp
    210                 215                 220

Ser Arg Arg Asp Lys Asp Phe Ala Leu Val Trp Met Ala Val Trp Ser
225                 230                 235                 240

Ala Leu Cys Phe Phe Ser Thr Ala Phe Thr Val Phe Thr Phe Leu Leu
                245                 250                 255

Glu Pro His Arg Phe Gln Tyr Pro Glu Arg Pro Ile Ile Phe Leu Ser
            260                 265                 270

Met Cys Tyr Asn Val Tyr Ser Leu Ala Phe Leu Ile Arg Ala Val Ala
        275                 280                 285

Gly Ala Gln Ser Val Ala Cys Asp Gln Glu Ala Gly Ala Leu Tyr Val
    290                 295                 300

Ile Gln Glu Gly Leu Glu Asn Thr Gly Cys Thr Leu Val Phe Leu Leu
305                 310                 315                 320

Leu Tyr Tyr Phe Gly Met Ala Ser Ser Leu Trp Trp Val Val Leu Thr
                325                 330                 335

Leu Thr Trp Phe Leu Ala Ala Gly Lys Lys Trp Gly His Glu Ala Ile
            340                 345                 350

Glu Ala His Gly Ser Tyr Phe His Met Ala Ala Trp Gly Leu Pro Ala
        355                 360                 365

Leu Lys Thr Ile Val Val Leu Thr Leu Arg Lys Val Ala Gly Asp Glu
    370                 375                 380

Leu Thr Gly Leu Cys Tyr Val Ala Ser Met Asp Pro Ala Ala Leu Thr
385                 390                 395                 400

Gly Phe Val Leu Val Pro Leu Ser Cys Tyr Leu Val Leu Gly Thr Ser
                405                 410                 415

Phe Leu Leu Thr Gly Phe Val Ala Leu Phe His Ile Arg Lys Ile Met
            420                 425                 430
```

```
Lys Thr Gly Gly Thr Asn Thr Glu Lys Leu Glu Lys Leu Met Val Lys
        435                 440                 445

Ile Gly Val Phe Ser Ile Leu Tyr Thr Val Pro Ala Thr Cys Val Ile
    450                 455                 460

Val Cys Tyr Val Tyr Glu Arg Leu Asn Met Asp Phe Trp Arg Leu Arg
465                 470                 475                 480

Ala Thr Glu Gln Pro Cys Thr Ala Ala Thr Val Pro Gly Gly Arg Arg
                485                 490                 495

Asp Cys Ser Leu Pro Gly Gly Ser Val Pro Thr Val Ala Val Phe Met
            500                 505                 510

Leu Lys Ile Phe Met Ser Leu Val Val Gly Ile Thr Ser Gly Val Trp
        515                 520                 525

Val Trp Ser Ser Lys Thr Phe Gln Thr Trp Gln Ser Leu Cys Tyr Arg
    530                 535                 540

Lys Met Ala Ala Gly Arg Ala Arg Ala Lys Ala Cys Arg Thr Pro Gly
545                 550                 555                 560

Gly Tyr Gly Arg Gly Thr His Cys His Tyr Lys Ala Pro Thr Val Val
                565                 570                 575

Leu His Met Thr Lys Thr Asp Pro Ser Leu Glu Asn Pro Thr His Leu
            580                 585                 590
```

<210> 128
<211> 591
<212> PRT
<213> Homo sapiens

<400> 128

```
Met Ala Val Ala Pro Leu Arg Gly Ala Leu Leu Leu Trp Gln Leu Leu
  1               5                  10                  15

Ala Ala Gly Gly Ala Ala Leu Glu Ile Gly Arg Phe Asp Pro Glu Arg
             20                  25                  30

Gly Arg Gly Ala Ala Pro Cys Gln Ala Val Glu Ile Pro Met Cys Arg
         35                  40                  45

Gly Ile Gly Tyr Asn Leu Thr Arg Met Pro Asn Leu Leu Gly His Thr
     50                  55                  60

Ser Gln Gly Glu Ala Ala Ala Glu Leu Ala Glu Phe Ala Pro Leu Val
 65                  70                  75                  80

Gln Tyr Gly Cys His Ser His Leu Arg Phe Phe Leu Cys Ser Leu Tyr
                 85                  90                  95

Ala Pro Met Cys Thr Asp Gln Val Ser Thr Pro Ile Pro Ala Cys Arg
            100                 105                 110

Pro Met Cys Glu Gln Ala Arg Leu Arg Cys Ala Pro Ile Met Glu Gln
```

```
        115                 120                 125

Phe Asn Phe Gly Trp Pro Asp Ser Leu Asp Cys Ala Arg Leu Pro Thr
    130                 135                 140

Arg Asn Asp Pro His Ala Leu Cys Met Glu Ala Pro Glu Asn Ala Thr
145                 150                 155                 160

Ala Gly Pro Ala Glu Pro His Lys Gly Leu Gly Met Leu Pro Val Ala
                165                 170                 175

Pro Arg Pro Ala Arg Pro Pro Gly Asp Leu Gly Pro Gly Ala Gly Gly
            180                 185                 190

Ser Gly Thr Cys Glu Asn Pro Glu Lys Phe Gln Tyr Val Glu Lys Ser
        195                 200                 205

Arg Ser Cys Ala Pro Arg Cys Gly Pro Gly Val Glu Val Phe Trp Ser
    210                 215                 220

Arg Arg Asp Lys Asp Phe Ala Leu Val Trp Met Ala Val Trp Ser Ala
225                 230                 235                 240

Leu Cys Phe Phe Ser Thr Ala Phe Thr Val Leu Thr Phe Leu Leu Glu
                245                 250                 255

Pro His Arg Phe Gln Tyr Pro Glu Arg Pro Ile Ile Phe Leu Ser Met
            260                 265                 270

Cys Tyr Asn Val Tyr Ser Leu Ala Phe Leu Ile Arg Ala Val Ala Gly
        275                 280                 285

Ala Gln Ser Val Ala Cys Asp Gln Glu Ala Gly Ala Leu Tyr Val Ile
    290                 295                 300

Gln Glu Gly Leu Glu Asn Thr Gly Cys Thr Leu Val Phe Leu Leu Leu
305                 310                 315                 320

Tyr Tyr Phe Gly Met Ala Ser Ser Leu Trp Trp Val Val Leu Thr Leu
                325                 330                 335

Thr Trp Phe Leu Ala Ala Gly Lys Lys Trp Gly His Glu Ala Ile Glu
            340                 345                 350

Ala His Gly Ser Tyr Phe His Met Ala Ala Trp Gly Leu Pro Ala Leu
        355                 360                 365

Lys Thr Ile Val Ile Leu Thr Leu Arg Lys Val Ala Gly Asp Glu Leu
    370                 375                 380

Thr Gly Leu Cys Tyr Val Ala Ser Thr Asp Ala Ala Ala Leu Thr Gly
385                 390                 395                 400

Phe Val Leu Val Pro Leu Ser Gly Tyr Leu Val Leu Gly Ser Ser Phe
                405                 410                 415

Leu Leu Thr Gly Phe Val Ala Leu Phe His Ile Arg Lys Ile Met Lys
            420                 425                 430

Thr Gly Gly Thr Asn Thr Glu Lys Leu Glu Lys Leu Met Val Lys Ile
        435                 440                 445
```

```
Gly Val Phe Ser Ile Leu Tyr Thr Val Pro Ala Thr Cys Val Ile Val
    450                 455                 460

Cys Tyr Val Tyr Glu Arg Leu Asn Met Asp Phe Trp Arg Leu Arg Ala
465                 470                 475                 480

Thr Glu Gln Pro Cys Ala Ala Ala Ala Gly Pro Gly Gly Arg Arg Asp
                485                 490                 495

Cys Ser Leu Pro Gly Gly Ser Val Pro Thr Val Ala Val Phe Met Leu
            500                 505                 510

Lys Ile Phe Met Ser Leu Val Val Gly Ile Thr Ser Gly Val Trp Val
        515                 520                 525

Trp Ser Ser Lys Thr Phe Gln Thr Trp Gln Ser Leu Cys Tyr Arg Lys
    530                 535                 540

Ile Ala Ala Gly Arg Ala Arg Ala Lys Ala Cys Arg Ala Pro Gly Ser
545                 550                 555                 560

Tyr Gly Arg Gly Thr His Cys His Tyr Lys Ala Pro Thr Val Val Leu
                565                 570                 575

His Met Thr Lys Thr Asp Pro Ser Leu Glu Asn Pro Thr His Leu
            580                 585                 590
```

<210> 129
<211> 549
<212> PRT
<213> Mus musculus

<400> 129

```
Glu Ile Pro Met Cys Arg Gly Ile Gly Tyr Asn Leu Thr Arg Met Pro
  1               5                  10                  15

Asn Leu Leu Gly His Thr Pro Gln Gly Glu Ala Ala Ala Gln Leu Ala
             20                  25                  30

Glu Phe Ser Pro Leu Val Gln Tyr Gly Cys His Ser His Leu Arg Phe
         35                  40                  45

Phe Leu Cys Ser Leu Tyr Ala Pro Met Cys Thr Asp Gln Val Ser Thr
     50                  55                  60

Pro Ile Pro Ala Cys Arg Pro Met Cys Glu Gln Ala Arg Leu Arg Cys
 65                  70                  75                  80

Ala Pro Ile Met Glu Gln Phe Asn Phe Gly Trp Pro Asp Ser Leu Asp
                 85                  90                  95

Cys Ala Arg Leu Pro Thr Arg Asn Asp Pro His Ala Leu Cys Met Glu
            100                 105                 110

Ala Pro Glu Asn Ala Thr Ala Gly Pro Thr Glu Pro His Lys Gly Leu
        115                 120                 125

Gly Met Leu Pro Val Ala Pro Arg Pro Ala Arg Pro Pro Gly Asp Ser
    130                 135                 140

Ala Pro Gly Pro Gly Ser Gly Gly Thr Cys Asp Asn Pro Glu Lys Phe
```

```
145                 150                 155                 160

Gln Tyr Val Glu Lys Ser Arg Ser Cys Ala Pro Arg Cys Gly Pro Gly
                165                 170                 175

Val Glu Val Phe Trp Ser Arg Arg Asp Lys Asp Phe Ala Leu Val Trp
            180                 185                 190

Met Ala Val Trp Ser Ala Leu Cys Phe Phe Ser Thr Ala Phe Thr Val
        195                 200                 205

Phe Thr Phe Leu Leu Glu Pro His Arg Phe Gln Tyr Pro Glu Arg Pro
    210                 215                 220

Ile Ile Phe Leu Ser Met Cys Tyr Asn Val Tyr Ser Leu Ala Phe Leu
225                 230                 235                 240

Ile Arg Ala Val Ala Gly Ala Gln Ser Val Ala Cys Asp Gln Glu Ala
                245                 250                 255

Gly Ala Leu Tyr Val Ile Gln Glu Asp Leu Glu Asn Thr Gly Cys Thr
            260                 265                 270

Leu Val Phe Leu Leu Leu Tyr Tyr Phe Gly Met Ala Ser Ser Leu Trp
        275                 280                 285

Trp Val Val Leu Thr Leu Thr Trp Phe Leu Ala Ala Gly Lys Lys Trp
    290                 295                 300

Gly His Glu Ala Ile Glu Ala His Gly Ser Tyr Phe His Met Ala Ala
305                 310                 315                 320

Trp Gly Leu Pro Ala Leu Lys Thr Ile Val Val Leu Thr Leu Arg Lys
                325                 330                 335

Val Ala Gly Asp Glu Leu Thr Gly Leu Cys Tyr Val Ala Ser Met Asp
            340                 345                 350

Pro Ala Ala Leu Thr Gly Phe Val Leu Val Pro Leu Ser Cys Tyr Leu
        355                 360                 365

Val Leu Gly Thr Ser Phe Leu Leu Thr Gly Phe Val Ala Leu Phe His
    370                 375                 380

Ile Arg Lys Ile Met Lys Thr Gly Gly Thr Asn Thr Glu Lys Leu Glu
385                 390                 395                 400

Lys Leu Met Val Lys Ile Gly Val Phe Ser Ile Leu Tyr Thr Val Pro
                405                 410                 415

Ala Thr Cys Val Ile Val Cys Tyr Val Tyr Glu Arg Leu Asn Met Asp
            420                 425                 430

Phe Trp Arg Leu Arg Ala Thr Glu Gln Pro Cys Thr Ala Ala Thr Val
        435                 440                 445

Pro Gly Gly Arg Arg Asp Cys Ser Leu Pro Gly Gly Ser Val Pro Thr
    450                 455                 460

Val Ala Val Phe Met Leu Lys Ile Phe Met Ser Leu Val Val Gly Ile
465                 470                 475                 480
```

```
Thr Ser Gly Val Trp Val Trp Ser Ser Lys Thr Phe Gln Thr Trp Gln
                485                 490                 495

Ser Leu Cys Tyr Arg Lys Met Ala Ala Gly Arg Ala Arg Ala Lys Ala
            500                 505                 510

Cys Arg Thr Pro Gly Gly Tyr Gly Arg Gly Thr His Cys His Tyr Lys
        515                 520                 525

Ala Pro Thr Val Val Leu His Met Thr Lys Thr Asp Pro Ser Leu Glu
    530                 535                 540

Asn Pro Thr His Leu
545
```

<210> 130
<211> 577
<212> PRT
<213> Danio rerio

<400> 130

```
Met Gly Ser Ser Pro Gln Ile Val Ile Ser Leu Trp Cys His Leu Val
  1               5                  10                  15

Ile Ala Ala Tyr Ser Leu Glu Ile Gly Ser Tyr Asp Leu Glu Arg Gly
             20                  25                  30

Arg Pro Ala Lys Cys Glu Pro Ile Val Ile Pro Met Cys Gln Gly Ile
         35                  40                  45

Gly Tyr Asn Leu Thr Arg Met Pro Asn Phe Met Asp His Asp Asn Gln
     50                  55                  60

Arg Glu Ala Ala Ile Lys Leu Asn Glu Phe Ala Pro Leu Val Glu Tyr
 65                  70                  75                  80

Gly Cys Asp Val His Leu Arg Phe Phe Leu Cys Ser Leu Tyr Ala Pro
                 85                  90                  95

Met Cys Thr Asp Gln Val Ser Thr Ser Ile Pro Ala Cys Arg Pro Met
            100                 105                 110

Cys Glu Gln Ala Arg Gln Glu Cys Ser Pro Ile Met Glu Lys Phe Asn
        115                 120                 125

Tyr Ala Trp Pro Glu Ser Leu Asn Cys Ser Lys Leu Pro Thr Arg Asn
    130                 135                 140

Asp Pro Asn Ala Leu Cys Met Glu Ala Pro Glu Asn Asp Thr Lys Thr
145                 150                 155                 160

Glu Thr Lys Lys Gly Glu Gly Met Leu Pro Val Pro Pro Arg Pro Arg
                165                 170                 175

Gln Pro Gly Ala Gly Asn Ala Arg Ser Gly Gly Thr Met Gly Val Cys
            180                 185                 190

Glu Asn Pro Glu Lys Phe Gln Tyr Val Glu Lys Ser Glu Thr Cys Ala
        195                 200                 205

Pro Arg Cys Ser Ser Ala Val Asp Val Phe Trp Ser Arg Gln Asp Lys
```

```
    210                 215                 220

Asp Phe Ala Phe Ile Trp Met Ala Val Trp Ser Thr Leu Cys Phe Val
225                 230                 235                 240

Ser Thr Ala Phe Thr Val Leu Thr Phe Leu Leu Asp Pro His Arg Phe
                245                 250                 255

Gln Tyr Pro Glu Arg Pro Ile Ile Phe Leu Ser Met Cys Tyr Asn Val
            260                 265                 270

Tyr Ser Val Ala Phe Ile Ile Arg Ser Val Ala Gly Ala Glu Asn Ile
        275                 280                 285

Ala Cys Asp Arg Glu Asn Gly Glu Leu Tyr Ile Ile Gln Glu Gly Leu
    290                 295                 300

Glu Ser Thr Gly Cys Thr Ile Val Phe Leu Ile Leu Tyr Tyr Phe Gly
305                 310                 315                 320

Met Ala Ser Ser Ile Trp Trp Val Ile Leu Thr Leu Thr Trp Phe Leu
                325                 330                 335

Ala Ala Gly Lys Lys Trp Gly His Glu Ala Ile Glu Ser His Ser Ser
            340                 345                 350

Tyr Phe His Met Ala Ala Trp Gly Ile Pro Ala Leu Lys Thr Ile Val
        355                 360                 365

Ile Leu Thr Met Arg Lys Val Ala Gly Asp Glu Leu Thr Gly Leu Cys
    370                 375                 380

Tyr Val Gly Ser Met Asp Val Gly Ala Leu Thr Gly Phe Val Leu Val
385                 390                 395                 400

Pro Leu Ser Cys Tyr Leu Val Ile Gly Thr Ser Phe Ile Leu Thr Gly
                405                 410                 415

Phe Val Ala Leu Phe His Ile Arg Lys Val Met Lys Thr Glu Gly Thr
            420                 425                 430

Asn Thr Glu Lys Leu Glu Lys Leu Met Val Lys Ile Gly Ile Tyr Ser
        435                 440                 445

Ile Leu Tyr Thr Val Pro Ala Thr Cys Val Ile Ile Cys Tyr Phe Tyr
    450                 455                 460

Glu Arg Leu Asn Met Asp Tyr Trp Lys Phe Arg Gly Leu Gln Ser Lys
465                 470                 475                 480

Cys Thr Thr Phe Pro Gly Arg Arg Asn Glu Asp Cys Ser Leu Asp Ser
                485                 490                 495

Ser Val Pro Thr Val Ala Val Phe Ile Leu Lys Ile Phe Met Ser Leu
            500                 505                 510

Val Val Gly Ile Thr Ser Gly Val Trp Val Trp Ser Ser Lys Thr Leu
        515                 520                 525

Gln Thr Trp Gln Gly Leu Cys Ser Arg Lys Leu Thr Asp Arg Thr Cys
    530                 535                 540
```

```
Arg Lys His Cys Ser Thr Ser His Cys His Tyr Lys Ala Pro Ala Val
545                 550                 555                 560

Ile Leu His Met Ser Lys Thr Asp Pro Tyr Ser Asp Cys Pro Thr His
                565                 570                 575

Val
```

<210> 131
<211> 856
<212> PRT
<213> Homo sapiens

<400> 131

```
Met Ala Leu Val Leu Gly Ser Leu Leu Leu Leu Gly Leu Cys Gly Asn
  1               5                  10                  15

Ser Phe Ser Gly Gly Gln Pro Ser Ser Thr Asp Ala Pro Lys Ala Trp
             20                  25                  30

Asn Tyr Glu Leu Pro Ala Thr Asn Tyr Glu Thr Gln Asp Ser His Lys
         35                  40                  45

Ala Gly Pro Ile Gly Ile Leu Phe Glu Leu Val His Ile Phe Leu Tyr
     50                  55                  60

Val Val Gln Pro Arg Asp Phe Pro Glu Asp Thr Leu Arg Lys Phe Leu
 65                  70                  75                  80

Gln Lys Ala Tyr Glu Ser Lys Ile Asp Tyr Asp Lys Ile Val Tyr Tyr
                 85                  90                  95

Glu Ala Gly Ile Ile Leu Cys Cys Val Leu Gly Leu Leu Phe Ile Ile
            100                 105                 110

Leu Met Pro Leu Val Gly Tyr Phe Phe Cys Met Cys Arg Cys Cys Asn
        115                 120                 125

Lys Cys Gly Gly Glu Met His Gln Arg Gln Lys Glu Asn Gly Pro Phe
    130                 135                 140

Leu Arg Lys Cys Phe Ala Ile Ser Leu Leu Val Ile Cys Ile Ile Ile
145                 150                 155                 160

Ser Ile Gly Ile Phe Tyr Gly Phe Val Ala Asn His Gln Val Arg Thr
                165                 170                 175

Arg Ile Lys Arg Ser Arg Lys Leu Ala Asp Ser Asn Phe Lys Asp Leu
            180                 185                 190

Arg Thr Leu Leu Asn Glu Thr Pro Glu Gln Ile Lys Tyr Ile Leu Ala
        195                 200                 205

Gln Tyr Asn Thr Thr Lys Asp Lys Ala Phe Thr Asp Leu Asn Ser Ile
    210                 215                 220

Asn Ser Val Leu Gly Gly Gly Ile Leu Asp Arg Leu Arg Pro Asn Ile
225                 230                 235                 240

Ile Pro Val Leu Asp Glu Ile Lys Ser Met Ala Thr Ala Ile Lys Glu
```

```
                245                 250                 255

Thr Lys Glu Ala Leu Glu Asn Met Asn Ser Thr Leu Lys Ser Leu His
            260                 265                 270

Gln Gln Ser Thr Gln Leu Ser Ser Ser Leu Thr Ser Val Lys Thr Ser
        275                 280                 285

Leu Arg Ser Ser Leu Asn Asp Pro Leu Cys Leu Val His Pro Ser Ser
    290                 295                 300

Glu Thr Cys Asn Ser Ile Arg Leu Ser Leu Ser Gln Leu Asn Ser Asn
305                 310                 315                 320

Pro Glu Leu Arg Gln Leu Pro Pro Val Asp Ala Glu Leu Asp Asn Val
                325                 330                 335

Asn Asn Val Leu Arg Thr Asp Leu Asp Gly Leu Val Gln Gln Gly Tyr
            340                 345                 350

Gln Ser Leu Asn Asp Ile Pro Asp Arg Val Gln Arg Gln Thr Thr Thr
        355                 360                 365

Val Val Ala Gly Ile Lys Arg Val Leu Asn Ser Ile Gly Ser Asp Ile
    370                 375                 380

Asp Asn Val Thr Gln Arg Leu Pro Ile Gln Asp Ile Leu Ser Ala Phe
385                 390                 395                 400

Ser Val Tyr Val Asn Asn Thr Glu Ser Tyr Ile His Arg Asn Leu Pro
                405                 410                 415

Thr Leu Glu Glu Tyr Asp Ser Tyr Trp Trp Leu Gly Gly Leu Val Ile
            420                 425                 430

Cys Ser Leu Leu Thr Leu Ile Val Ile Phe Tyr Tyr Leu Gly Leu Leu
        435                 440                 445

Cys Gly Val Cys Gly Tyr Asp Arg His Ala Thr Pro Thr Thr Arg Gly
    450                 455                 460

Cys Val Ser Asn Thr Gly Gly Val Phe Leu Met Val Gly Val Gly Leu
465                 470                 475                 480

Ser Phe Leu Phe Cys Trp Ile Leu Met Ile Ile Val Val Leu Thr Phe
                485                 490                 495

Val Phe Gly Ala Asn Val Glu Lys Leu Ile Cys Glu Pro Tyr Thr Ser
            500                 505                 510

Lys Glu Leu Phe Arg Val Leu Asp Thr Pro Tyr Leu Leu Asn Glu Asp
        515                 520                 525

Trp Glu Tyr Tyr Leu Ser Gly Lys Leu Phe Asn Lys Ser Lys Met Lys
    530                 535                 540

Leu Thr Phe Glu Gln Val Tyr Ser Asp Cys Lys Lys Asn Arg Gly Thr
545                 550                 555                 560

Tyr Gly Thr Leu His Leu Gln Asn Ser Phe Asn Ile Ser Glu His Leu
                565                 570                 575
```

```
Asn Ile Asn Glu His Thr Gly Ser Ile Ser Ser Glu Leu Glu Ser Leu
            580                 585                 590

Lys Val Asn Leu Asn Ile Phe Leu Leu Gly Ala Ala Gly Arg Lys Asn
        595                 600                 605

Leu Gln Asp Phe Ala Ala Cys Gly Ile Asp Arg Met Asn Tyr Asp Ser
    610                 615                 620

Tyr Leu Ala Gln Thr Gly Lys Ser Pro Ala Gly Val Asn Leu Leu Ser
625                 630                 635                 640

Phe Ala Tyr Asp Leu Glu Ala Lys Ala Asn Ser Leu Pro Pro Gly Asn
                645                 650                 655

Leu Arg Asn Ser Leu Lys Arg Asp Ala Gln Thr Ile Lys Thr Ile His
            660                 665                 670

Gln Gln Arg Val Leu Pro Ile Glu Gln Ser Leu Ser Thr Leu Tyr Gln
        675                 680                 685

Ser Val Lys Ile Leu Gln Arg Thr Gly Asn Gly Leu Leu Glu Arg Val
    690                 695                 700

Thr Arg Ile Leu Ala Ser Leu Asp Phe Ala Gln Asn Phe Ile Thr Asn
705                 710                 715                 720

Asn Thr Ser Ser Val Ile Ile Glu Glu Thr Lys Lys Tyr Gly Arg Thr
                725                 730                 735

Ile Ile Gly Tyr Phe Glu His Tyr Leu Gln Trp Ile Glu Phe Ser Ile
            740                 745                 750

Ser Glu Lys Val Ala Ser Cys Lys Pro Val Ala Thr Ala Leu Asp Thr
        755                 760                 765

Ala Val Asp Val Phe Leu Cys Ser Tyr Ile Ile Asp Pro Leu Asn Leu
    770                 775                 780

Phe Trp Phe Gly Ile Gly Lys Ala Thr Val Phe Leu Leu Pro Ala Leu
785                 790                 795                 800

Ile Phe Ala Val Lys Leu Ala Lys Tyr Tyr Arg Arg Met Asp Ser Glu
                805                 810                 815

Asp Val Tyr Asp Asp Val Glu Thr Ile Pro Met Lys Asn Met Glu Asn
            820                 825                 830

Gly Asn Asn Gly Tyr His Lys Asp His Val Tyr Gly Ile His Asn Pro
        835                 840                 845

Val Met Thr Ser Pro Ser Gln His
    850                 855


<210> 132
<211> 865
<212> PRT
<213> Homo sapiens

<400> 132
Met Ala Leu Val Leu Gly Ser Leu Leu Leu Leu Gly Leu Cys Gly Asn
```

```
  1               5                  10                  15

Ser Phe Ser Gly Gly Gln Pro Ser Ser Thr Asp Ala Pro Lys Ala Trp
             20                  25                  30

Asn Tyr Glu Leu Pro Ala Thr Asn Tyr Glu Thr Gln Asp Ser His Lys
         35                  40                  45

Ala Gly Pro Ile Gly Ile Leu Phe Glu Leu Val His Ile Phe Leu Tyr
     50                  55                  60

Val Val Gln Pro Arg Asp Phe Pro Glu Asp Thr Leu Arg Lys Phe Leu
 65                  70                  75                  80

Gln Lys Ala Tyr Glu Ser Lys Ile Asp Tyr Asp Lys Pro Glu Thr Val
                 85                  90                  95

Ile Leu Gly Leu Lys Ile Val Tyr Tyr Glu Ala Gly Ile Ile Leu Cys
            100                 105                 110

Cys Val Leu Gly Leu Leu Phe Ile Ile Leu Met Pro Leu Val Gly Tyr
        115                 120                 125

Phe Phe Cys Met Cys Arg Cys Cys Asn Lys Cys Gly Gly Glu Met His
    130                 135                 140

Gln Arg Gln Lys Glu Asn Gly Pro Phe Leu Arg Lys Cys Phe Ala Ile
145                 150                 155                 160

Ser Leu Leu Val Ile Cys Ile Ile Ile Ser Ile Gly Ile Phe Tyr Gly
                165                 170                 175

Phe Val Ala Asn His Gln Val Arg Thr Arg Ile Lys Arg Ser Arg Lys
            180                 185                 190

Leu Ala Asp Ser Asn Phe Lys Asp Leu Arg Thr Leu Leu Asn Glu Thr
        195                 200                 205

Pro Glu Gln Ile Lys Tyr Ile Leu Ala Gln Tyr Asn Thr Thr Lys Asp
    210                 215                 220

Lys Ala Phe Thr Asp Leu Asn Ser Ile Asn Ser Val Leu Gly Gly Gly
225                 230                 235                 240

Ile Leu Asp Arg Leu Arg Pro Asn Ile Ile Pro Val Leu Asp Glu Ile
                245                 250                 255

Lys Ser Met Ala Thr Ala Ile Lys Glu Thr Lys Glu Ala Leu Glu Asn
            260                 265                 270

Met Asn Ser Thr Leu Lys Ser Leu His Gln Gln Ser Thr Gln Leu Ser
        275                 280                 285

Ser Ser Leu Thr Ser Val Lys Thr Ser Leu Arg Ser Ser Leu Asn Asp
    290                 295                 300

Pro Leu Cys Leu Val His Pro Ser Ser Glu Thr Cys Asn Ser Ile Arg
305                 310                 315                 320

Leu Ser Leu Ser Gln Leu Asn Ser Asn Pro Glu Leu Arg Gln Leu Pro
                325                 330                 335
```

```
Pro Val Asp Ala Glu Leu Asp Asn Val Asn Asn Val Leu Arg Thr Asp
            340                 345                 350

Leu Asp Gly Leu Val Gln Gln Gly Tyr Gln Ser Leu Asn Asp Ile Pro
        355                 360                 365

Asp Arg Val Gln Arg Gln Thr Thr Thr Val Val Ala Gly Ile Lys Arg
    370                 375                 380

Val Leu Asn Ser Ile Gly Ser Asp Ile Asp Asn Val Thr Gln Arg Leu
385                 390                 395                 400

Pro Ile Gln Asp Ile Leu Ser Ala Phe Ser Val Tyr Val Asn Asn Thr
                405                 410                 415

Glu Ser Tyr Ile His Arg Asn Leu Pro Thr Leu Glu Glu Tyr Asp Ser
            420                 425                 430

Tyr Trp Trp Leu Gly Gly Leu Val Ile Cys Ser Leu Leu Thr Leu Ile
        435                 440                 445

Val Ile Phe Tyr Tyr Leu Gly Leu Leu Cys Gly Val Cys Gly Tyr Asp
    450                 455                 460

Arg His Ala Thr Pro Thr Thr Arg Gly Cys Val Ser Asn Thr Gly Gly
465                 470                 475                 480

Val Phe Leu Met Val Gly Val Gly Leu Ser Phe Leu Phe Cys Trp Ile
                485                 490                 495

Leu Met Ile Ile Val Val Leu Thr Phe Val Phe Gly Ala Asn Val Glu
            500                 505                 510

Lys Leu Ile Cys Glu Pro Tyr Thr Ser Lys Glu Leu Phe Arg Val Leu
        515                 520                 525

Asp Thr Pro Tyr Leu Leu Asn Glu Asp Trp Glu Tyr Tyr Leu Ser Gly
    530                 535                 540

Lys Leu Phe Asn Lys Ser Lys Met Lys Leu Thr Phe Glu Gln Val Tyr
545                 550                 555                 560

Ser Asp Cys Lys Lys Asn Arg Gly Thr Tyr Gly Thr Leu His Leu Gln
                565                 570                 575

Asn Ser Phe Asn Ile Ser Glu His Leu Asn Ile Asn Glu His Thr Gly
            580                 585                 590

Ser Ile Ser Ser Glu Leu Glu Ser Leu Lys Val Asn Leu Asn Ile Phe
        595                 600                 605

Leu Leu Gly Ala Ala Gly Arg Lys Asn Leu Gln Asp Phe Ala Ala Cys
    610                 615                 620

Gly Ile Asp Arg Met Asn Tyr Asp Ser Tyr Leu Ala Gln Thr Gly Lys
625                 630                 635                 640

Ser Pro Ala Gly Val Asn Leu Leu Ser Phe Ala Tyr Asp Leu Glu Ala
                645                 650                 655

Lys Ala Asn Ser Leu Pro Pro Gly Asn Leu Arg Asn Ser Leu Lys Arg
            660                 665                 670
```

```
Asp Ala Gln Thr Ile Lys Thr Ile His Gln Gln Arg Val Leu Pro Ile
        675                 680                 685

Glu Gln Ser Leu Ser Thr Leu Tyr Gln Ser Val Lys Ile Leu Gln Arg
    690                 695                 700

Thr Gly Asn Gly Leu Leu Glu Arg Val Thr Arg Ile Leu Ala Ser Leu
705                 710                 715                 720

Asp Phe Ala Gln Asn Phe Ile Thr Asn Asn Thr Ser Ser Val Ile Ile
                725                 730                 735

Glu Glu Thr Lys Lys Tyr Gly Arg Thr Ile Ile Gly Tyr Phe Glu His
            740                 745                 750

Tyr Leu Gln Trp Ile Glu Phe Ser Ile Ser Glu Lys Val Ala Ser Cys
        755                 760                 765

Lys Pro Val Ala Thr Ala Leu Asp Thr Ala Val Asp Val Phe Leu Cys
    770                 775                 780

Ser Tyr Ile Ile Asp Pro Leu Asn Leu Phe Trp Phe Gly Ile Gly Lys
785                 790                 795                 800

Ala Thr Val Phe Leu Leu Pro Ala Leu Ile Phe Ala Val Lys Leu Ala
                805                 810                 815

Lys Tyr Tyr Arg Arg Met Asp Ser Glu Asp Val Tyr Asp Asp Val Glu
            820                 825                 830

Thr Ile Pro Met Lys Asn Met Glu Asn Gly Asn Asn Gly Tyr His Lys
        835                 840                 845

Asp His Val Tyr Gly Ile His Asn Pro Val Met Thr Ser Pro Ser Gln
    850                 855                 860

His
865
```

<210> 133
<211> 857
<212> PRT
<213> Rattus norvegicus

<400> 133

```
Met Ala Leu Val Phe Ser Val Leu Leu Leu Leu Gly Leu Cys Gly Lys
  1               5                  10                  15

Met Ala Ser Gly Gly Gln Pro Ala Phe Asp Asn Thr Pro Gly Ala Leu
             20                  25                  30

Asn Tyr Glu Leu Pro Thr Thr Glu Tyr Glu Thr Gln Asp Thr Phe Asn
         35                  40                  45

Ala Gly Ile Ile Asp Pro Leu Tyr Gln Met Val His Ile Phe Leu Asn
     50                  55                  60

Val Val Gln Pro Asn Asp Phe Pro Gln Asp Leu Val Lys Lys Leu Ile
 65                  70                  75                  80
```

```
Gln Lys Arg Phe Asp Ile Ser Val Asp Thr Lys Glu Val Ala Ile Tyr
                 85                  90                  95

Glu Ile Gly Val Leu Ile Cys Val Ile Leu Gly Leu Leu Phe Ile Phe
            100                 105                 110

Leu Met Pro Leu Val Gly Phe Phe Phe Cys Met Cys Arg Cys Cys Asn
        115                 120                 125

Lys Cys Gly Gly Glu Met His Gln Arg Gln Lys Gln Asn Glu Ser Cys
    130                 135                 140

Arg Arg Lys Cys Leu Ala Ile Ser Leu Leu Leu Ile Cys Leu Leu Met
145                 150                 155                 160

Ser Leu Gly Ile Ala Phe Gly Phe Val Ala Asn Gln Gln Thr Arg Thr
                165                 170                 175

Arg Ile Gln Arg Thr Gln Lys Leu Ala Glu Ser Asn Tyr Arg Asp Leu
            180                 185                 190

Arg Ala Leu Leu Thr Glu Ala Pro Lys Gln Ile Asp Tyr Ile Leu Gly
        195                 200                 205

Gln Tyr Asn Thr Thr Lys Asn Lys Ala Phe Ser Asp Leu Asp Ser Ile
    210                 215                 220

Asp Ser Val Leu Gly Gly Arg Ile Lys Gly Gln Leu Lys Pro Lys Val
225                 230                 235                 240

Thr Pro Val Leu Glu Glu Ile Lys Ala Met Ala Thr Ala Ile Arg Gln
                245                 250                 255

Thr Lys Asp Ala Leu Gln Asn Met Ser Ser Ser Leu Lys Ser Leu Arg
            260                 265                 270

Asp Ala Ser Thr Gln Leu Ser Thr Asn Leu Thr Ser Val Arg Asn Ser
        275                 280                 285

Ile Glu Asn Ser Leu Asn Ser Asn Asp Cys Ala Ser Asp Pro Ala Ser
    290                 295                 300

Lys Ile Cys Asp Ser Leu Arg Pro Gln Leu Ser Asn Leu Gly Ser Asn
305                 310                 315                 320

His Asn Gly Ser Gln Leu Pro Ser Val Asp Arg Glu Leu Asn Thr Val
                325                 330                 335

Asn Asp Val Asp Arg Thr Asp Leu Glu Ser Leu Val Lys Arg Gly Tyr
            340                 345                 350

Met Ser Ile Asp Glu Ile Pro Asn Met Ile Gln Asn Gln Thr Gly Asp
        355                 360                 365

Val Ile Lys Asp Val Lys Lys Thr Leu Asp Ser Val Ser Ser Lys Val
    370                 375                 380

Lys Asn Met Ser Gln Ser Ile Pro Val Glu Glu Val Leu Leu Gln Phe
385                 390                 395                 400

Ser His Tyr Leu Asn Asp Ser Asn Arg Tyr Ile His Glu Ser Leu Pro
                405                 410                 415
```

```
Arg Val Glu Glu Tyr Asp Ser Tyr Trp Trp Leu Gly Gly Leu Ile Val
            420                 425                 430

Cys Phe Leu Leu Thr Leu Ile Val Thr Phe Phe Tyr Leu Gly Leu Leu
        435                 440                 445

Cys Gly Val Phe Gly Tyr Asp Lys Arg Ala Thr Pro Thr Arg Arg Gly
    450                 455                 460

Cys Val Ser Asn Thr Gly Gly Ile Phe Leu Met Ala Gly Val Gly Phe
465                 470                 475                 480

Ser Phe Leu Phe Cys Trp Ile Leu Met Ile Leu Val Val Leu Thr Phe
                485                 490                 495

Val Val Gly Ala Asn Val Glu Lys Leu Leu Cys Glu Pro Tyr Glu Asn
            500                 505                 510

Lys Lys Leu Leu Gln Val Leu Asp Thr Pro Tyr Leu Leu Asn Asp Gln
        515                 520                 525

Trp Gln Phe Tyr Leu Ser Gly Ile Leu Leu Lys Asn Pro Asp Ile Asn
    530                 535                 540

Met Thr Phe Glu Gln Val Tyr Arg Asp Cys Lys Arg Gly Arg Gly Val
545                 550                 555                 560

Tyr Ala Thr Phe Gln Leu Glu Asn Val Phe Asn Ile Thr Glu Asn Phe
                565                 570                 575

Asn Ile Glu Arg Leu Ser Glu Asp Ile Val Lys Glu Leu Glu Lys Leu
            580                 585                 590

Asn Val Asn Ile Asp Ser Ile Glu Leu Leu Asp Lys Thr Gly Arg Lys
        595                 600                 605

Ser Leu Glu Asp Phe Ala Gln Ser Gly Ile Asp Arg Ile Asn Tyr Ser
    610                 615                 620

Met Tyr Leu Gln Glu Ala Glu Lys Pro Pro Thr Lys Val Asp Leu Leu
625                 630                 635                 640

Thr Phe Ala Ser Phe Leu Glu Thr Glu Ala Asn Gln Leu Pro Asp Gly
                645                 650                 655

Asn Leu Lys Gln Ala Phe Leu Met Asp Ala Gln Asn Ile Arg Ala Ile
            660                 665                 670

His Gln Gln His Val Pro Pro Val Gln Gln Ser Leu Asn Ser Leu Lys
        675                 680                 685

Gln Ser Val Trp Ala Leu Lys Gln Thr Ser Ser Lys Leu Pro Glu Glu
    690                 695                 700

Val Lys Lys Val Leu Ala Ser Leu Asp Ser Ala Gln His Phe Leu Thr
705                 710                 715                 720

Ser Asn Leu Ser Ser Ile Val Ile Gly Glu Thr Lys Lys Phe Gly Arg
                725                 730                 735

Thr Ile Ile Gly Tyr Phe Glu His Tyr Leu Gln Trp Val Leu Tyr Ala
```

```
            740                 745                 750

Ile Thr Glu Lys Met Thr Ser Cys Lys Pro Met Ile Thr Ala Met Asp
        755                 760                 765

Ser Ala Val Asn Gly Ile Leu Cys Ser Tyr Val Ala Asp Pro Leu Asn
    770                 775                 780

Leu Phe Trp Phe Gly Ile Gly Lys Ala Thr Met Leu Leu Leu Pro Ala
785                 790                 795                 800

Val Ile Ile Ala Ile Lys Leu Ala Lys Tyr Tyr Arg Arg Met Asp Ser
                805                 810                 815

Glu Asp Val Tyr Asp Asp Val Glu Thr Val Pro Met Lys Asn Leu Glu
            820                 825                 830

Asn Gly Ser Asn Gly Tyr His Lys Asp His Leu Tyr Gly Val His Asn
        835                 840                 845

Pro Val Met Thr Ser Pro Ser Arg Tyr
    850                 855


<210> 134
<211> 867
<212> PRT
<213> Mus musculus

<400> 134
Met Ala Leu Val Phe Ser Ala Leu Leu Leu Leu Gly Leu Cys Gly Lys
  1               5                  10                  15

Ile Ser Ser Glu Gly Gln Pro Ala Phe His Asn Thr Pro Gly Ala Met
             20                  25                  30

Asn Tyr Glu Leu Pro Thr Thr Lys Tyr Glu Thr Gln Asp Thr Phe Asn
         35                  40                  45

Ala Gly Ile Val Gly Pro Leu Tyr Lys Met Val His Ile Phe Leu Ser
     50                  55                  60

Val Val Gln Pro Asn Asp Phe Pro Leu Asp Leu Ile Lys Lys Leu Ile
 65                  70                  75                  80

Gln Asn Lys Lys Phe Asp Ile Ser Val Asp Ser Lys Glu Pro Glu Ile
                85                  90                  95

Ile Val Leu Ala Leu Lys Ile Ala Leu Tyr Glu Ile Gly Val Leu Ile
            100                 105                 110

Cys Ala Ile Leu Gly Leu Leu Phe Ile Ile Leu Met Pro Leu Val Gly
        115                 120                 125

Cys Phe Phe Cys Met Cys Arg Cys Cys Asn Lys Cys Gly Gly Glu Met
    130                 135                 140

His Gln Arg Gln Lys Gln Asn Ala Pro Cys Arg Arg Lys Cys Leu Gly
145                 150                 155                 160

Leu Ser Leu Leu Val Ile Cys Leu Leu Met Ser Leu Gly Ile Ile Tyr
                165                 170                 175
```

```
Gly Phe Val Ala Asn Gln Gln Thr Arg Thr Arg Ile Lys Gly Thr Gln
            180                 185                 190

Lys Leu Ala Lys Ser Asn Phe Arg Asp Phe Gln Thr Leu Leu Thr Glu
        195                 200                 205

Thr Pro Lys Gln Ile Asp Tyr Val Val Glu Gln Tyr Thr Asn Thr Lys
    210                 215                 220

Asn Lys Ala Phe Ser Asp Leu Asp Gly Ile Gly Ser Val Leu Gly Gly
225                 230                 235                 240

Arg Ile Lys Asp Gln Leu Lys Pro Lys Val Thr Pro Val Leu Glu Glu
                245                 250                 255

Ile Lys Ala Met Ala Thr Ala Ile Lys Gln Thr Lys Asp Ala Leu Gln
            260                 265                 270

Asn Met Ser Ser Ser Leu Lys Ser Leu Gln Asp Ala Ala Thr Gln Leu
        275                 280                 285

Asn Thr Asn Leu Ser Ser Val Arg Asn Ser Ile Glu Asn Ser Leu Ser
    290                 295                 300

Ser Ser Asp Cys Thr Ser Asp Pro Ala Ser Lys Ile Cys Asp Ser Ile
305                 310                 315                 320

Arg Pro Ser Leu Ser Ser Leu Gly Ser Ser Leu Asn Ser Ser Gln Leu
                325                 330                 335

Pro Ser Val Asp Arg Glu Leu Asn Thr Val Thr Glu Val Asp Lys Thr
            340                 345                 350

Asp Leu Glu Ser Leu Val Lys Arg Gly Tyr Thr Thr Ile Asp Glu Ile
        355                 360                 365

Pro Asn Thr Ile Gln Asn Gln Thr Val Asp Val Ile Lys Asp Val Lys
    370                 375                 380

Asn Thr Leu Asp Ser Ile Ser Ser Asn Ile Lys Asp Met Ser Gln Ser
385                 390                 395                 400

Ile Pro Ile Glu Asp Met Leu Leu Gln Val Ser His Tyr Leu Asn Asn
                405                 410                 415

Ser Asn Arg Tyr Leu Asn Gln Glu Leu Pro Lys Leu Glu Glu Tyr Asp
            420                 425                 430

Ser Tyr Trp Trp Leu Gly Gly Leu Ile Val Cys Phe Leu Leu Thr Leu
        435                 440                 445

Ile Val Thr Phe Phe Phe Leu Gly Leu Leu Cys Gly Val Phe Gly Tyr
    450                 455                 460

Asp Lys His Ala Thr Pro Thr Arg Arg Gly Cys Val Ser Asn Thr Gly
465                 470                 475                 480

Gly Ile Phe Leu Met Ala Gly Val Gly Phe Gly Phe Leu Phe Cys Trp
                485                 490                 495

Ile Leu Met Ile Leu Val Val Leu Thr Phe Val Val Gly Ala Asn Val
```

```
            500                 505                 510

Glu Lys Leu Leu Cys Glu Pro Tyr Glu Asn Lys Lys Leu Leu Gln Val
        515                 520                 525

Leu Asp Thr Pro Tyr Leu Leu Lys Glu Gln Trp Gln Phe Tyr Leu Ser
    530                 535                 540

Gly Met Leu Phe Asn Asn Pro Asp Ile Asn Met Thr Phe Glu Gln Val
545                 550                 555                 560

Tyr Arg Asp Cys Lys Arg Gly Arg Gly Ile Tyr Ala Ala Phe Gln Leu
                565                 570                 575

Glu Asn Val Val Asn Val Ser Asp His Phe Asn Ile Asp Gln Ile Ser
            580                 585                 590

Glu Asn Ile Asn Thr Glu Leu Glu Asn Leu Asn Val Asn Ile Asp Ser
        595                 600                 605

Ile Glu Leu Leu Asp Asn Thr Gly Arg Lys Ser Leu Glu Asp Phe Ala
    610                 615                 620

His Ser Gly Ile Asp Thr Ile Asp Tyr Ser Thr Tyr Leu Lys Glu Thr
625                 630                 635                 640

Glu Lys Ser Pro Thr Glu Val Asn Leu Leu Thr Phe Ala Ser Thr Leu
                645                 650                 655

Glu Ala Lys Ala Asn Gln Leu Pro Glu Gly Lys Pro Lys Gln Ala Phe
            660                 665                 670

Leu Leu Asp Val Gln Asn Ile Arg Ala Ile His Gln His Leu Leu Pro
        675                 680                 685

Pro Val Gln Gln Ser Leu Asn Thr Leu Arg Gln Ser Val Trp Thr Leu
    690                 695                 700

Gln Gln Thr Ser Asn Lys Leu Pro Glu Lys Val Lys Lys Ile Leu Ala
705                 710                 715                 720

Ser Leu Asp Ser Val Gln His Phe Leu Thr Asn Asn Val Ser Leu Ile
                725                 730                 735

Val Ile Gly Glu Thr Lys Lys Phe Gly Lys Thr Ile Leu Gly Tyr Phe
            740                 745                 750

Glu His Tyr Leu His Trp Val Phe Tyr Ala Ile Thr Glu Lys Met Thr
        755                 760                 765

Ser Cys Lys Pro Met Ala Thr Ala Met Asp Ser Ala Val Asn Gly Ile
    770                 775                 780

Leu Cys Gly Tyr Val Ala Asp Pro Leu Asn Leu Phe Trp Phe Gly Ile
785                 790                 795                 800

Gly Lys Ala Thr Val Leu Leu Leu Pro Ala Val Ile Ile Ala Ile Lys
                805                 810                 815

Leu Ala Lys Tyr Tyr Arg Arg Met Asp Ser Glu Asp Val Tyr Asp Asp
            820                 825                 830
```

```
Val Glu Thr Val Pro Met Lys Asn Leu Glu Ile Gly Ser Asn Gly Tyr
        835                 840                 845

His Lys Asp His Leu Tyr Gly Val His Asn Pro Val Met Thr Ser Pro
    850                 855                 860

Ser Arg Tyr
865
```

<210> 135
<211> 858
<212> PRT
<213> Mus musculus

<400> 135

```
Met Ala Leu Val Phe Ser Ala Leu Leu Leu Leu Gly Leu Cys Gly Lys
  1               5                  10                  15

Ile Ser Ser Glu Gly Gln Pro Ala Phe His Asn Thr Pro Gly Ala Met
             20                  25                  30

Asn Tyr Glu Leu Pro Thr Thr Lys Tyr Glu Thr Gln Asp Thr Phe Asn
         35                  40                  45

Ala Gly Ile Val Gly Pro Leu Tyr Lys Met Val His Ile Phe Leu Asn
     50                  55                  60

Val Val Gln Pro Asn Asp Phe Pro Leu Asp Leu Ile Lys Lys Leu Ile
 65                  70                  75                  80

Gln Asn Lys Asn Phe Asp Ile Ser Val Asp Ser Lys Glu Ile Ala Leu
                 85                  90                  95

Tyr Glu Ile Gly Val Leu Ile Cys Ala Ile Leu Gly Leu Leu Phe Ile
            100                 105                 110

Ile Leu Met Pro Leu Val Gly Cys Phe Phe Cys Met Cys Arg Cys Cys
        115                 120                 125

Asn Lys Cys Gly Gly Glu Met His Gln Arg Gln Lys Gln Asn Ala Pro
    130                 135                 140

Cys Arg Arg Lys Cys Leu Gly Leu Ser Leu Leu Val Ile Cys Leu Leu
145                 150                 155                 160

Met Ser Leu Gly Ile Ile Tyr Gly Phe Val Ala Asn Gln Gln Thr Arg
                165                 170                 175

Thr Arg Ile Lys Gly Thr Gln Lys Leu Ala Lys Ser Asn Phe Arg Asp
            180                 185                 190

Phe Gln Thr Leu Leu Thr Glu Thr Pro Lys Gln Ile Asp Tyr Val Val
        195                 200                 205

Glu Gln Tyr Thr Asn Thr Lys Asn Lys Ala Phe Ser Asp Leu Asp Gly
    210                 215                 220

Ile Gly Ser Val Leu Gly Gly Arg Ile Lys Asp Gln Leu Lys Pro Lys
225                 230                 235                 240

Val Thr Pro Val Leu Glu Glu Ile Lys Ala Met Ala Thr Ala Ile Lys
```

```
                245                 250                 255

Gln Thr Lys Asp Ala Leu Gln Asn Met Ser Ser Ser Leu Lys Ser Leu
            260                 265                 270

Gln Asp Ala Ala Thr Gln Leu Asn Thr Asn Leu Ser Ser Val Arg Asn
        275                 280                 285

Ser Ile Glu Asn Ser Leu Ser Ser Ser Asp Cys Thr Ser Asp Pro Ala
    290                 295                 300

Ser Lys Ile Cys Asp Ser Ile Arg Pro Ser Leu Ser Ser Leu Gly Ser
305                 310                 315                 320

Ser Leu Asn Ser Ser Gln Leu Pro Ser Val Asp Arg Glu Leu Asn Thr
                325                 330                 335

Val Thr Glu Val Asp Lys Thr Asp Leu Glu Ser Leu Val Lys Arg Gly
            340                 345                 350

Tyr Thr Thr Ile Asp Glu Ile Pro Asn Thr Ile Gln Asn Gln Thr Val
        355                 360                 365

Asp Val Ile Lys Asp Val Lys Asn Thr Leu Asp Ser Ile Ser Ser Asn
    370                 375                 380

Ile Lys Asp Met Ser Gln Ser Ile Pro Ile Glu Asp Met Leu Leu Gln
385                 390                 395                 400

Val Ser His Tyr Leu Asn Asn Ser Asn Arg Tyr Leu Asn Gln Glu Leu
                405                 410                 415

Pro Lys Leu Glu Glu Tyr Asp Ser Tyr Trp Trp Leu Gly Gly Leu Ile
            420                 425                 430

Val Cys Phe Leu Leu Thr Leu Ile Val Thr Phe Phe Phe Leu Gly Leu
        435                 440                 445

Leu Cys Gly Val Phe Gly Tyr Asp Lys His Ala Thr Pro Thr Arg Arg
    450                 455                 460

Gly Cys Val Ser Asn Thr Gly Gly Ile Phe Leu Met Ala Gly Val Gly
465                 470                 475                 480

Phe Gly Phe Leu Phe Cys Trp Ile Leu Met Ile Leu Val Val Leu Thr
                485                 490                 495

Phe Val Val Gly Ala Asn Val Glu Lys Leu Leu Cys Glu Pro Tyr Glu
            500                 505                 510

Asn Lys Lys Leu Leu Gln Val Leu Asp Thr Pro Tyr Leu Leu Lys Glu
        515                 520                 525

Gln Trp Gln Phe Tyr Leu Ser Gly Met Leu Phe Asn Asn Pro Asp Ile
    530                 535                 540

Asn Met Thr Phe Glu Gln Val Tyr Arg Asp Cys Lys Arg Gly Arg Gly
545                 550                 555                 560

Ile Tyr Ala Ala Phe Gln Leu Glu Asn Val Val Asn Val Ser Asp His
                565                 570                 575
```

```
Phe Asn Ile Asp Gln Ile Ser Glu Asn Ile Asn Thr Glu Leu Glu Asn
            580                 585                 590

Leu Asn Val Asn Ile Asp Ser Ile Glu Leu Leu Asp Asn Thr Gly Arg
        595                 600                 605

Lys Ser Leu Glu Asp Phe Ala His Ser Gly Ile Asp Thr Ile Asp Tyr
    610                 615                 620

Ser Thr Tyr Leu Lys Glu Thr Glu Lys Ser Pro Thr Glu Val Asn Leu
625                 630                 635                 640

Leu Thr Phe Ala Ser Thr Leu Glu Ala Lys Ala Asn Gln Leu Pro Glu
                645                 650                 655

Gly Lys Leu Lys Gln Ala Phe Leu Leu Asp Val Gln Asn Ile Arg Ala
            660                 665                 670

Ile His Gln His Leu Leu Pro Pro Val Gln Gln Ser Leu Asn Thr Leu
        675                 680                 685

Arg Gln Ser Val Trp Thr Leu Gln Gln Thr Ser Asn Lys Leu Pro Glu
    690                 695                 700

Lys Val Lys Lys Ile Leu Ala Ser Leu Asp Ser Val Gln His Phe Leu
705                 710                 715                 720

Thr Asn Asn Val Ser Leu Ile Val Ile Gly Glu Thr Lys Lys Phe Gly
                725                 730                 735

Lys Thr Ile Leu Gly Tyr Phe Glu His Tyr Leu His Trp Val Phe Tyr
            740                 745                 750

Ala Ile Thr Glu Lys Met Thr Ser Cys Lys Pro Met Ala Thr Ala Met
        755                 760                 765

Asp Ser Ala Val Asn Gly Ile Leu Cys Gly Tyr Val Ala Asp Pro Leu
    770                 775                 780

Asn Leu Phe Trp Phe Gly Ile Gly Lys Ala Thr Val Leu Leu Leu Pro
785                 790                 795                 800

Ala Val Ile Ile Ala Ile Lys Leu Ala Lys Tyr Tyr Arg Arg Met Asp
                805                 810                 815

Ser Glu Asp Val Tyr Asp Asp Val Glu Thr Val Pro Met Lys Asn Leu
            820                 825                 830

Glu Ile Asp Ser Asn Gly Tyr His Lys Asp His Leu Tyr Gly Val His
        835                 840                 845

Asn Pro Val Met Thr Ser Pro Ser Arg Tyr
    850                 855


<210> 136
<211> 417
<212> PRT
<213> Homo sapiens

<400> 136
Met Ala Gln Lys Glu Gly Gly Arg Thr Val Pro Lys Lys Ser Arg Pro
```

```
  1               5                  10                  15

Lys Val Ala Ala Leu Thr Ala Gly Thr Leu Leu Leu Leu Thr Ala Ile
            20                  25                  30

Gly Ala Ala Ser Trp Ala Ile Val Ala Val Leu Leu Arg Ser Asp Gln
        35                  40                  45

Glu Pro Leu Tyr Pro Val Gln Val Ser Ser Ala Asp Ala Arg Leu Met
    50                  55                  60

Val Phe Asp Lys Thr Glu Gly Thr Trp Arg Leu Leu Cys Ser Ser Arg
65                  70                  75                  80

Ser Asn Ala Arg Val Ala Gly Leu Ser Cys Glu Glu Met Gly Phe Leu
                85                  90                  95

Arg Ala Leu Thr His Ser Glu Leu Asp Val Arg Thr Ala Gly Ala Asn
            100                 105                 110

Gly Thr Ser Gly Phe Phe Cys Val Asp Glu Gly Arg Leu Pro His Thr
        115                 120                 125

Gln Arg Leu Leu Glu Val Ile Ser Val Cys Asp Cys Pro Arg Gly Arg
    130                 135                 140

Phe Leu Ala Ala Ile Cys Gln Asp Cys Gly Arg Arg Lys Leu Pro Val
145                 150                 155                 160

Asp Arg Ile Val Gly Gly Arg Asp Thr Ser Leu Gly Arg Trp Pro Trp
                165                 170                 175

Gln Val Ser Leu Arg Tyr Asp Gly Ala His Leu Cys Gly Gly Ser Leu
            180                 185                 190

Leu Ser Gly Asp Trp Val Leu Thr Ala Ala His Cys Phe Pro Glu Arg
        195                 200                 205

Asn Arg Val Leu Ser Arg Trp Arg Val Phe Ala Gly Ala Val Ala Gln
    210                 215                 220

Ala Ser Pro His Gly Leu Gln Leu Gly Val Gln Ala Val Val Tyr His
225                 230                 235                 240

Gly Gly Tyr Leu Pro Phe Arg Asp Pro Asn Ser Glu Glu Asn Ser Asn
                245                 250                 255

Asp Ile Ala Leu Val His Leu Ser Ser Pro Leu Pro Leu Thr Glu Tyr
            260                 265                 270

Ile Gln Pro Val Cys Leu Pro Ala Ala Gly Gln Ala Leu Val Asp Gly
        275                 280                 285

Lys Ile Cys Thr Val Thr Gly Trp Gly Asn Thr Gln Tyr Tyr Gly Gln
    290                 295                 300

Gln Ala Gly Val Leu Gln Glu Ala Arg Val Pro Ile Ile Ser Asn Asp
305                 310                 315                 320

Val Cys Asn Gly Ala Asp Phe Tyr Gly Asn Gln Ile Lys Pro Lys Met
                325                 330                 335
```

```
Phe Cys Ala Gly Tyr Pro Glu Gly Gly Ile Asp Ala Cys Gln Gly Asp
            340                 345                 350

Ser Gly Gly Pro Phe Val Cys Glu Asp Ser Ile Ser Arg Thr Pro Arg
        355                 360                 365

Trp Arg Leu Cys Gly Ile Val Ser Trp Gly Thr Gly Cys Ala Leu Ala
    370                 375                 380

Gln Lys Pro Gly Val Tyr Thr Lys Val Ser Asp Phe Arg Glu Trp Ile
385                 390                 395                 400

Phe Gln Ala Ile Lys Thr His Ser Glu Ala Ser Gly Met Val Thr Gln
                405                 410                 415

Leu
```

<210> 137
<211> 416
<212> PRT
<213> Rattus norvegicus

<400> 137

```
Met Ala Lys Glu Gly Gly Arg Thr Ala Pro Cys Cys Ser Arg Pro Lys
  1               5                  10                  15

Val Ala Ala Leu Thr Val Gly Thr Leu Leu Phe Leu Thr Gly Ile Gly
             20                  25                  30

Ala Ala Ser Trp Ala Ile Val Thr Ile Leu Leu Arg Ser Asp Gln Glu
         35                  40                  45

Pro Leu Tyr Gln Val Gln Leu Ser Pro Gly Asp Ser Arg Leu Leu Val
     50                  55                  60

Leu Asp Lys Thr Glu Gly Thr Trp Arg Leu Leu Cys Ser Ser Arg Ser
 65                  70                  75                  80

Asn Ala Arg Val Ala Gly Leu Gly Cys Glu Glu Met Gly Phe Leu Arg
                 85                  90                  95

Ala Leu Ala His Ser Glu Leu Asp Val Arg Thr Ala Gly Ala Asn Gly
            100                 105                 110

Thr Ser Gly Phe Phe Cys Val Asp Glu Gly Gly Leu Pro Leu Ala Gln
        115                 120                 125

Arg Leu Leu Asp Val Ile Ser Val Cys Asp Cys Pro Arg Gly Arg Phe
    130                 135                 140

Leu Thr Ala Thr Cys Gln Asp Cys Gly Arg Arg Lys Leu Pro Val Asp
145                 150                 155                 160

Arg Ile Val Gly Gly Gln Asp Ser Ser Leu Gly Arg Trp Pro Trp Gln
                165                 170                 175

Val Ser Leu Arg Tyr Asp Gly Thr His Leu Cys Gly Gly Ser Leu Leu
            180                 185                 190

Ser Gly Asp Trp Val Leu Thr Ala Ala His Cys Phe Pro Glu Arg Asn
```

```
        195                 200                 205

Arg Val Leu Ser Arg Trp Arg Val Phe Ala Gly Ala Val Ala Arg Thr
    210                 215                 220

Ser Pro His Ala Val Gln Leu Gly Val Gln Ala Val Ile Tyr His Gly
225                 230                 235                 240

Gly Tyr Leu Pro Phe Arg Asp Pro Thr Ile Asp Glu Asn Ser Asn Asp
                245                 250                 255

Ile Ala Leu Val His Leu Ser Ser Ser Leu Pro Leu Thr Glu Tyr Ile
            260                 265                 270

Gln Pro Val Cys Leu Pro Ala Ala Gly Gln Ala Leu Val Asp Gly Lys
        275                 280                 285

Val Cys Thr Val Thr Gly Trp Gly Asn Thr Gln Phe Tyr Gly Gln Gln
    290                 295                 300

Ala Val Val Leu Gln Glu Ala Arg Val Pro Ile Ile Ser Asn Glu Val
305                 310                 315                 320

Cys Asn Ser Pro Asp Phe Tyr Gly Asn Gln Ile Lys Pro Lys Met Phe
                325                 330                 335

Cys Ala Gly Tyr Pro Glu Gly Gly Ile Asp Ala Cys Gln Gly Asp Ser
            340                 345                 350

Gly Gly His Phe Val Cys Glu Asp Arg Ile Ser Gly Thr Ser Arg Trp
        355                 360                 365

Arg Leu Cys Gly Ile Val Ser Trp Gly Thr Gly Cys Ala Leu Ala Arg
    370                 375                 380

Lys Pro Gly Val Tyr Thr Lys Val Ile Asp Phe Arg Glu Trp Ile Phe
385                 390                 395                 400

Gln Ala Ile Lys Thr His Ser Glu Ala Thr Gly Met Val Thr Gln Pro
                405                 410                 415
```

<210> 138
<211> 416
<212> PRT
<213> Mus musculus

<400> 138

```
Met Ala Lys Glu Gly Gly Arg Thr Ala Ala Cys Cys Ser Arg Pro Lys
  1               5                  10                  15

Val Ala Ala Leu Ile Val Gly Thr Leu Leu Phe Leu Thr Gly Ile Gly
             20                  25                  30

Ala Ala Ser Trp Ala Ile Val Thr Ile Leu Leu Gln Ser Asp Gln Glu
         35                  40                  45

Pro Leu Tyr Gln Val Gln Leu Ser Pro Gly Asp Ser Arg Leu Ala Val
     50                  55                  60
```

```
Leu Asp Lys Thr Glu Gly Thr Trp Arg Leu Leu Cys Ser Ser Arg Ser
 65                  70                  75                  80

Asn Ala Arg Val Ala Gly Leu Gly Cys Glu Glu Met Gly Phe Leu Arg
                 85                  90                  95

Ala Leu Ala His Ser Glu Leu Asp Val Arg Thr Ala Gly Ala Asn Gly
            100                 105                 110

Thr Ser Gly Phe Phe Cys Val Asp Glu Gly Gly Leu Pro Leu Ala Gln
        115                 120                 125

Arg Leu Leu Asp Val Ile Ser Val Cys Asp Cys Pro Arg Gly Arg Phe
    130                 135                 140

Leu Thr Ala Thr Cys Gln Asp Cys Gly Arg Arg Lys Leu Pro Val Asp
145                 150                 155                 160

Arg Ile Val Gly Gly Gln Asp Ser Ser Leu Gly Arg Trp Pro Trp Gln
                165                 170                 175

Val Ser Leu Arg Tyr Asp Gly Thr His Leu Cys Gly Gly Ser Leu Leu
            180                 185                 190

Ser Gly Asp Trp Val Leu Thr Ala Ala His Cys Phe Pro Glu Arg Asn
        195                 200                 205

Arg Val Leu Ser Arg Trp Arg Val Phe Ala Gly Ala Val Ala Arg Thr
    210                 215                 220

Ser Pro His Ala Val Gln Leu Gly Val Gln Ala Val Ile Tyr His Gly
225                 230                 235                 240

Gly Tyr Leu Pro Phe Arg Asp Pro Thr Ile Asp Glu Asn Ser Asn Asp
                245                 250                 255

Ile Ala Leu Val His Leu Ser Ser Ser Leu Pro Leu Thr Glu Tyr Ile
            260                 265                 270

Gln Pro Val Cys Leu Pro Ala Ala Gly Gln Ala Leu Val Asp Gly Lys
        275                 280                 285

Val Cys Thr Val Thr Gly Trp Gly Asn Thr Gln Phe Tyr Gly Gln Gln
    290                 295                 300

Ala Met Val Leu Gln Glu Ala Arg Val Pro Ile Ile Ser Asn Glu Val
305                 310                 315                 320

Cys Asn Ser Pro Asp Phe Tyr Gly Asn Gln Ile Lys Pro Lys Met Phe
                325                 330                 335

Cys Ala Gly Tyr Pro Glu Gly Gly Ile Asp Ala Cys Gln Gly Asp Ser
            340                 345                 350

Gly Gly Pro Phe Val Cys Glu Asp Ser Ile Ser Gly Thr Ser Arg Trp
        355                 360                 365

Arg Leu Cys Gly Ile Val Ser Trp Gly Thr Gly Cys Ala Leu Ala Arg
    370                 375                 380

Lys Pro Gly Val Tyr Thr Lys Val Thr Asp Phe Arg Glu Trp Ile Phe
```

```
385                 390                 395                 400

Lys Ala Ile Lys Thr His Ser Glu Ala Ser Gly Met Val Thr Gln Pro
                405                 410                 415
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<210> 139
<211> 304
<212> PRT
<213> Homo sapiens

<400> 139

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Thr Ser Gly Phe Phe Cys Val Asp Glu Gly Arg Leu Pro His Thr Gln
  1               5                  10                  15

Arg Leu Leu Glu Val Ile Ser Val Cys Asp Cys Pro Arg Gly Arg Phe
             20                  25                  30

Leu Ala Ala Ile Cys Gln Asp Cys Gly Arg Arg Lys Leu Pro Val Asp
         35                  40                  45

Arg Ile Val Gly Gly Arg Asp Thr Ser Leu Gly Arg Trp Pro Trp Gln
     50                  55                  60

Val Ser Leu Arg Tyr Asp Gly Ala His Leu Cys Gly Gly Ser Leu Leu
 65                  70                  75                  80

Ser Gly Asp Trp Val Leu Thr Ala Ala His Cys Phe Pro Glu Arg Asn
                 85                  90                  95

Arg Val Leu Ser Arg Trp Arg Val Phe Ala Gly Ala Val Ala Gln Ala
            100                 105                 110

Ser Pro His Gly Leu Gln Leu Gly Val Gln Ala Val Val Tyr His Gly
        115                 120                 125

Gly Tyr Leu Pro Phe Arg Asp Pro Asn Ser Glu Glu Asn Ser Asn Asp
    130                 135                 140

Ile Ala Leu Val His Leu Ser Ser Pro Leu Pro Leu Thr Glu Tyr Ile
145                 150                 155                 160

Gln Pro Val Cys Leu Pro Ala Ala Gly Gln Ala Leu Val Asp Gly Lys
                165                 170                 175

Ile Cys Thr Val Thr Gly Trp Gly Asn Thr Gln Tyr Tyr Gly Gln Gln
            180                 185                 190

Ala Gly Val Leu Gln Glu Ala Arg Val Pro Ile Ile Ser Asn Asp Val
        195                 200                 205

Cys Asn Gly Ala Asp Phe Tyr Gly Asn Gln Ile Lys Pro Lys Met Phe
    210                 215                 220

Cys Ala Gly Tyr Pro Glu Gly Gly Ile Asp Ala Cys Gln Gly Asp Ser
225                 230                 235                 240

Gly Gly Pro Phe Val Cys Glu Asp Ser Ile Ser Arg Thr Pro Arg Trp
                245                 250                 255
```

```
Arg Leu Cys Gly Ile Val Ser Trp Gly Thr Gly Cys Ala Leu Ala Gln
            260                 265                 270

Lys Pro Gly Val Tyr Thr Lys Val Ser Asp Phe Arg Glu Trp Ile Phe
        275                 280                 285

Gln Ala Ile Lys Thr His Ser Glu Ala Ser Gly Met Val Thr Gln Leu
    290                 295                 300
```

<210> 140
<211> 502
<212> PRT
<213> Mus musculus

<400> 140

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Arg Pro Gln Leu Gly Arg Pro His Ala Ala Gly Cys Cys Cys His Pro
  1               5                  10                  15

Cys Leu Pro Gly Cys Pro Leu Leu Trp Gly Gln Thr Pro Cys Pro Cys
             20                  25                  30

Pro Gly Pro Glu Thr Asn Pro Lys Pro Ala Pro Ser Pro Ala Asn Pro
         35                  40                  45

Arg Val Pro Pro Gln Pro Asn Arg Ser Thr Trp Glu Ser Leu Thr Arg
     50                  55                  60

Val Pro Asp Met Ala Lys Glu Asp Glu Glu Pro Gly Ala His Arg Gly
 65                  70                  75                  80

Gly Ser Thr Cys Ser Arg Pro Gln Pro Gly Lys Gly Gly Arg Thr Ala
                 85                  90                  95

Ala Cys Cys Ser Arg Pro Lys Val Ala Ala Leu Ile Val Gly Thr Leu
            100                 105                 110

Leu Phe Leu Thr Gly Ile Gly Ala Ala Ser Trp Ala Ile Val Thr Ile
        115                 120                 125

Leu Leu Gln Ser Asp Gln Glu Pro Leu Tyr Gln Val Gln Leu Ser Pro
    130                 135                 140

Gly Asp Ser Arg Leu Ala Val Phe Asp Lys Thr Glu Gly Thr Trp Arg
145                 150                 155                 160

Leu Leu Cys Ser Ser Arg Ser Asn Ala Arg Val Ala Gly Leu Gly Cys
                165                 170                 175

Glu Glu Met Gly Phe Leu Arg Ala Leu Ala His Ser Glu Leu Asp Val
            180                 185                 190

Arg Thr Ala Gly Ala Asn Gly Thr Ser Gly Phe Phe Cys Val Asp Glu
        195                 200                 205

Gly Gly Leu Pro Leu Ala Gln Arg Leu Leu Asp Val Ile Ser Val Cys
    210                 215                 220
```

```
Asp Cys Pro Arg Gly Arg Phe Leu Thr Ala Thr Cys Gln Asp Cys Gly
225                 230                 235                 240

Arg Arg Ser Cys Arg Trp Thr Ala Leu Trp Gly Ala Arg Thr Ala Val
                245                 250                 255

Trp Glu Gly Gly Arg Gly Arg Ser Ala Cys Val Met Met Gly Thr Thr
            260                 265                 270

Ser Val Gly Gly Pro Ala Val Ser Gly Leu Gly Ala Asp Cys Cys Thr
        275                 280                 285

Leu Leu Ser Arg Ala Gly Asp Gly Pro Val Ser Val Ala Ser Ile Cys
    290                 295                 300

Trp Cys Cys Ser Pro Asp Leu Thr Pro Cys Cys Ala Thr Gly Val Gln
305                 310                 315                 320

Ala Val Ile Tyr His Gly Gly Tyr Leu Leu Phe Arg Asp Pro Thr Ile
                325                 330                 335

Asp Glu Asn Ser Asn Asp Ile Ala Leu Val Asn Leu Ser Ser Ser Leu
            340                 345                 350

Pro Leu Thr Glu Tyr Ile Gln Pro Val Cys Leu Pro Ala Ala Gly Gln
        355                 360                 365

Ala Leu Val Asp Gly Lys Val Cys Thr Val Thr Gly Trp Gly Asn Thr
    370                 375                 380

Gln Phe Tyr Gly Gln Gln Ala Met Val Leu Gln Glu Ala Arg Val Pro
385                 390                 395                 400

Ile Ile Ser Asn Glu Val Cys Asn Ser Pro Asp Phe Tyr Gly Asn Gln
                405                 410                 415

Ile Lys Pro Lys Met Phe Cys Ala Gly Tyr Pro Glu Gly Gly Ile Asp
            420                 425                 430

Ala Cys Gln Gly Asp Ser Gly Gly Pro Phe Val Cys Glu Asp Ser Ile
        435                 440                 445

Ser Gly Thr Ser Arg Trp Arg Leu Cys Gly Ile Val Ser Trp Gly Thr
    450                 455                 460

Gly Cys Ala Leu Ala Arg Lys Pro Gly Val Tyr Thr Lys Val Thr Asp
465                 470                 475                 480

Phe Arg Glu Trp Ile Phe Lys Ala Ile Lys Thr His Ser Glu Ala Ser
                485                 490                 495

Gly Met Val Thr Gln Pro
            500
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<210> 141
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide

primer

<400> 141
tgcaaaatga acaaccagac ta 22

<210> 142
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 142
atccccgccg tggagatctt cat 23

<210> 143
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 143
ccagcagcat aaagatcttc ac 22

<210> 144
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 144
cttgaagttc tcacaccttt gc 22

<210> 145
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 145
tcataacagt tactgcatca acggtg 26

<210> 146
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 146
tcatggtgga atgcacaag 19

<210> 147
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 147
gtctatcttt tattcaacgc aatgaca 27

<210> 148
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 148
agtcacggct gcctcttcgg tca 23

<210> 149
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 149
gggctgtgat tggaggtgtt 20

<210> 150
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 150
gtctatcttt tattcaacgc aatgaca 27

<210> 151

<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 151
cacggctgcc tcttcggtca gtg 23

<210> 152
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 152
gggctgtgat tggaggtgtt a 21

<210> 153
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 153
gtgtctgtga gaggcagcta tc 22

<210> 154
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 154
tgcactctaa actgcaaaca gaaatcagg 29

<210> 155
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 155
ccccaaaagc tacattttga ta 22

<210> 156
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 156
aggatccagg aaacgaagtg 20

<210> 157
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 157
tctacgcgct atataagcag gccactg 27

<210> 158
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 158
gggcatgtta caaggtcctt 20

<210> 159
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 159
gcagctggac gtcctctatc 20

<210> 160
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 160
ccagaacatg aacgggtccg aatact 26

<210> 161
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 161
ccaggaagga ctggatcttc 20

<210> 162
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 162
gccaggcact gttcatctc 19

<210> 163
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 163
ctcccggcaa gctttctgct gaaag 25

<210> 164
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 164
gacatcaggc tccagatatg aa 22

<210> 165
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 165
gagctcagac cgtgtctagg tt 22

<210> 166
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 166
cctggggtct cctgctcagc tca 23

<210> 167
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 167
gtcctctcca gaaggctctt c 21

<210> 168
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 168
cccacaagag aggtatgtca ct 22

<210> 169
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 169
ttacttccca ggacatccac cctgag 26

<210> 170
<211> 22

<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 170
aaaatttggc actcacatga ag 22

<210> 171
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 171
ttactgggta ggattcgctt tt 22

<210> 172
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 172
aaatcctcca gggacacagc ccatt 25

<210> 173
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 173
gggagtacct gaacacctca ct 22

<210> 174
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 174
tcctgaacag gtacctgagc ta 22

<210> 175
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 175
aagcaggacg ccacctctac catcat 26

<210> 176
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 176
caatgacgtt gttggtaatg c 21

<210> 177
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 177
tcctgaacag gtacctgagc ta 22

<210> 178
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 178
aagcaggacg ccacctctac catcat 26

<210> 179
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 179
caatgacgtt gttggtaatg c 21

<210> 180
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 180
gaccagggtc atatttgcac ta 22

<210> 181
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 181
cctcctgagg taacagcaag tcccat 26

<210> 182
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 182
cgggaatact ttccccttct a 21

<210> 183
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 183
gtactcattt cgcctctggt t 21

<210> 184
<211> 26
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:oligonucleotide primer

<400> 184
tgcaacaact ttcaaggtcc ttgctg 26

<210> 185
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 185
agcacaaggt tgagcacttt c 21

<210> 186
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 186
cataatggaa acaggacctg aa 22

<210> 187
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 187
ccttccagca tgccagagga aagtt 25

<210> 188
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 188
aggtcctggt agggaatgct 20

<210> 189
<211> 20
<212> DNA

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 189
cccattcagc ttcacagaga 20

<210> 190
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 190
cagatcctgg cattctctca gaagctg 27

<210> 191
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 191
atgctcactg tctgttcctt gt 22

<210> 192
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 192
ggtccaacag ggctatcaat 20

<210> 193
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 193
ccaaaccacg actgtcgtag caggta 26

<210> 194
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 194
tggaattcaa gacccttttg a 21

<210> 195
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 195
cacgcactgc cactataagg 20

<210> 196
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 196
cttgcacatg actaagacgg acccct 26

<210> 197
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 197
ctagaggtgt gtggggttct c 21

<210> 198
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 198

cacgcactgc cactataagg 20

<210> 199
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 199
cttgcacatg actaagacgg acccct 26

<210> 200
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 200
ctagaggtgt gtggggttct c 21

<210> 201
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 201
cccgaaaagg ctttatgtat tc 22

<210> 202
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 202
cagaaacaca aatgaaaatc ctcagga 27

<210> 203
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide

primer

<400> 203
tgtcagtagc tttgatgcat tg 22

<210> 204
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 204
gcttttgggt tttggaatta tg 22

<210> 205
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 205
tccatatttg aacataaaat cgtgtttcg 29

<210> 206
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 206
gtggtgatga tggagaattg aa 22

<210> 207
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 207
aggacagaac acctaggtgc tt 22

<210> 208
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 208
ctcttcaggt ccccaggaac ccct 24

<210> 209
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 209
cctaatgccc acctcctaat ag 22

<210> 210
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 210
gaccaaactt tggccattta a 21

<210> 211
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 211
cggatccatt tgacacacca gcattt 26

<210> 212
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 212
gtgaggtca gagcatgaat tt 22

<210> 213

<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 213
gaccaaactt tggccattta a 21

<210> 214
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 214
cggatccatt tgacacacca gcattt 26

<210> 215
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 215
gtgatggtca gagcatgaat tt 22

<210> 216
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 216
tggggtagtt ggagctgaa 19

<210> 217
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 217
caggtctgca cctgttcagc atttg 25

<210> 218
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 218
tgcagacaga actgtgtcag tt 22

<210> 219
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 219
ggacttctgt ggaccttatg tg 22

<210> 220
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 220
ttttcctctt tgctggagtg ctcctg 26

<210> 221
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 221
ttcctttggt ttctggaact tt 22

<210> 222
<211> 22
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 222
tcagaaggga atcatgatat cg 22

<210> 223
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 223
ccttgataaa actccaggct cctttga 27

<210> 224
<211> 21
<212> DNA
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<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 224
tttggaaggt aggcatattg g 21

<210> 225
<211> 40
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 225
ctcgaggcca ggtctagcaa ggcttccaaa caacatttcc 40

<210> 226
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 226
gcggccgccc accatgctga ggagagtcac tgttgct 37

<210> 227
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 227
ctcgagttat ttgactattt tatggtaggg gagaagg 37

<210> 228
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 228
tcaatcttct cctcaaagct agaaaga 27

<210> 229
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 229
cagaggcttg aagtttagtt tgtcaac 27

<210> 230
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 230
gtttgtggtt aaatcctttc actcgaata 29

<210> 231
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 231
tttcagctgg aagatgaaga tctgg 25

<210> 232
<211> 25

<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 232
tcctcaattt tccgaatctc ttcaa 25

<210> 233
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 233
tgttaaatgc tggtgtgtca aatgg 25

<210> 234
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 234
cttcaacttc acggtcaatt gcatct 26

<210> 235
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 235
tgctctctct tctaattctt ccaattca 28

<210> 236
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 236
caggtagact tcgccttgtt ccttc 25

<210> 237
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 237
ctagctttga ggagaagatt gagaacc 27

<210> 238
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 238
ctaaacttca agcctctgga gcaggag 27

<210> 239
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 239
ccacaaacta cctctactgt ttcagctc 28

<210> 240
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 240
catcttccag ctgaaaacaa gtacatagc 29

<210> 241
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 241
aatttttgaa gagattcgga aaattga 27

<210> 242
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 242
tgacacacca gcatttaaca aacttta 27

<210> 243
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 243
gtgaatatca acttgcaagg ccttctg 27

<210> 244
<211> 27
<212> DNA
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<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 244
ggaagaatta gaagagagag cagaagc 27

<210> 245
<211> 25
<212> DNA
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<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 245
gaaggaacaa ggcgaagtct acctg 25

<210> 246
<211> 34
<212> DNA
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:oligonucleotide primer

<400> 246
ggatccggat gtctgactca actctatgaa aacg 34

<210> 247
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 247
ctcgagtgct ggtgactgca tctgagcttt tcc 33

<210> 248
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 248
ttttctggca ttcttcattt gttacc 26

<210> 249
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 249
actatagatg cgccaaacat cctgc 25

<210> 250
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 250
tccttacagt cttctgggag taaagaa 27

<210> 251
<211> 25
<212> DNA

<213> Artificial Sequence

<220>
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primer

<400> 251
agaagaggca gttggggtga taggt 25

<210> 252
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 252
ttcaacactg ctaaccttag acacatt 27

<210> 253
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 253
gaagaatgcc agaaaagata tcaagatt 28

<210> 254
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 254
ttggcgcatc tatagtggca tttt 24

<210> 255
<211> 30
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 255
cccagaagac tgtaaggaag agaagtgtaa 30

<210> 256
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 256
cccaactgcc tcttctttac attctatac 29

<210> 257
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 257
aaaaaggtgc accagtaaca ttcgc 25

<210> 258
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 258
ggatccactg tcatcactgc tgtgctgggt tccttcc 37

<210> 259
<211> 39
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 259
ctcgaggaat tctgcagcaa tttcctcaaa agactttcc 39

<210> 260
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 260

ccctgtctgt atccagcttt gcagtt 26

<210> 261
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 261
tatatcggtg aaattgctcc aaccg 25

<210> 262
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 262
tgaaaagact cagaggatat gatgatg 27

<210> 263
<211> 23
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 263
tttatgcaac cattggagtt ggc 23

<210> 264
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 264
atcttcctct ttgtcagctt ctttgaa 27

<210> 265
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide

primer

<400> 265
accagagcat ggtgattagt tgagc 25

<210> 266
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 266
atttcaccga tatacatagg aaccagg 27

<210> 267
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 267
agctttgttt tgctttgact tcctc 25

<210> 268
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 268
ataaacaggt ttgctgatac cagccgt 27

<210> 269
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 269
tggctatcat gctcacataa ctcatc 26

<210> 270
<211> 40
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 270
ggatccggag ggcagccttc atccacagat gctcctaagg 40

<210> 271
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 271
ctcgagatgt tgtgatgggc ttgtcataac agg 33

<210> 272
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 272
ttttgtatgt gtcgttgctg taacaaa 27

<210> 273
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 273
attcagtgct aggaggcgga attctt 26

<210> 274
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 274
tggatgcaga acttgacaac gttaata 27

<210> 275

<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 275
tttttactac ctgggcttac tgtgtggc 28

<210> 276
<211> 28
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 276
tgaagctcac ttttgaacaa gtttacag 28

<210> 277
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 277
catatgatct agaagcaaaa gcaaaca 27

<210> 278
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 278
gccaccgctc tagatactgc tgtt 24

<210> 279
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 279
aaatacccca ccagaggcat cagaata 27

<210> 280
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 280
ttgatactgt tcagatctgt gaacgcc 27

<210> 281
<211> 24
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 281
aacgttgtca agttctgcat ccac 24

<210> 282
<211> 26
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 282
ccacacagta agcccaggta gtaaaa 26

<210> 283
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 283
aatagcttcc cagagagata gtattccca 29

<210> 284
<211> 27
<212> DNA
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<220>
<223> Description of Artificial Sequence:oligonucleotide
primer

<400> 284
aactgtttgc ttttgcttct agatcat 27

<210> 285
<211> 25
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 285
cacgatgcca ctttctcact gatag 25

<210> 286
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 286
aagcttagga gtgaccagga gccgctgtac ccagtgc 37

<210> 287
<211> 35
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 287
gtcgacgagc tgggtcacca tgccgctggc ttcgg 35

<210> 288
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 288
agcctccccc cgtccacaca gaagaag 27

<210> 289
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 289
caaagaccat gagccgagcg t 21

<210> 290
<211> 27
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 290
tctgcgccat gtcactgcct cttgtta 27

<210> 291
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 291
gtgatcacgg acgcagattg g 21

<210> 292
<211> 20
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 292
ctggatttgc agggatgggg 20

<210> 293
<211> 21
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 293
cagaggctgc tggaggtcat c 21

<210> 294
<211> 21

<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 294
gacaagacgg aagggacgtg g 21

<210> 295
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 295
gaaggagggt ggccggact 19

<210> 296
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 296
ctctggccaa ggcccagtc 19

<210> 297
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 297
cccgctgctg gtcagacac 19

<210> 298
<211> 35
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:oligonucleotide primer

<400> 298
ggatcctctg cagcggctct ttgtgttgga gttgg 35

<210> 299
<211> 97
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:consensus
sequence

<400> 299
Asn Val Thr Ile Ser Val Glu Lys Glu Gly Cys Thr Ser Cys Lys Thr
1 5 10 15

Val Asn Thr Thr Ile Cys Ala Gly Tyr Cys Tyr Thr Lys Asp Pro Val
20 25 30

Tyr Lys Asp Gly Arg Ser Leu Leu Ile Gln Cys Val Cys Cys Tyr Pro
35 40 45

Asp Val Thr Tyr Glu Thr Lys Val Leu Pro Gly Cys Pro Pro Gly Val
50 55 60

Asp Pro Thr Lys Thr Tyr Pro Val Ala Leu Ser Cys His Cys Gly Lys
65 70 75 80

Cys Asn Thr Asp Asn Thr Asp Cys Thr Arg Leu Ser Leu Gln Pro Asp
85 90 95

Ser

<210> 300
<211> 76
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:consensus
sequence

<400> 300
Leu Gln Glu Gln Phe Glu Ala Ala Ala Glu Lys Val Lys Lys Leu Lys
1 5 10 15

Lys Asn Pro Ser Asn Asp Glu Leu Leu Gln Leu Tyr Ser Leu Tyr Lys
20 25 30

Gln Ala Thr Val Gly Asp Cys Asn Thr Glu Lys Pro Gly Met Phe Asp
35 40 45

Leu Lys Gly Arg Ala Lys Trp Asp Ala Trp Asn Glu Leu Lys Gly Met
50 55 60

Ser Lys Glu Glu Ala Met Lys Ala Tyr Ile Ala Lys
65 70 75

<210> 301
<211> 393
<212> PRT

<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:consensus sequence

<400> 301

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Leu Pro Thr Asn Val Val Pro Ile His Tyr Asp Leu Arg Leu Thr Pro
  1               5                  10                  15

Phe Leu Pro Glu Lys Pro Thr Phe Ser Gly Ser Val Thr Ile Thr Leu
             20                  25                  30

Gln Ala Thr Ile Ala Gly Thr Asp Glu Ile Val Leu His Ala Lys Asp
         35                  40                  45

Leu Thr Ile Ser Ser Val Thr Leu Val Gly Val Asn Gly Ser Thr Pro
     50                  55                  60

Glu Ser Val Glu Phe Ser Leu Gln Asp Glu Thr Gln Lys Leu Thr Ile
 65                  70                  75                  80

Thr Leu Pro Gln Ser Leu Ser Ala Gly Gln Gln Tyr Thr Leu Glu Ile
                 85                  90                  95

Asp Tyr Thr Gly Lys Ile Ser Asp Ser Met Leu Gly Phe Tyr Arg Ser
            100                 105                 110

Glu Tyr Thr Asp Gly Gly Asp Gly Glu Thr Lys Tyr Met Ala Thr Thr
        115                 120                 125

Gln Phe Glu Pro Thr Asp Ala Arg Arg Ala Phe Pro Cys Phe Asp Glu
    130                 135                 140

Pro Ser Phe Lys Ala Thr Phe Thr Ile Thr Ile Thr His Pro Lys Gly
145                 150                 155                 160

Ser Thr Ala Leu Ser Asn Met Pro Val Ile Thr Thr Thr Lys Asp Asp
                165                 170                 175

Asp Gly Arg Val Ile Thr Thr Phe Glu Thr Thr Pro Pro Met Ser Thr
            180                 185                 190

Tyr Leu Leu Ala Phe Val Val Gly Asp Leu Thr Tyr Leu Glu Thr Glu
        195                 200                 205

Thr Lys Asp Gly Val Pro Val Arg Val Tyr Ala Arg Pro Gly Ala Lys
    210                 215                 220

Asn Ala Gly Gln Gly Gln Tyr Ala Leu Asp Val Thr Lys Lys Leu Leu
225                 230                 235                 240

Glu Phe Tyr Glu Glu Tyr Phe Gly Tyr Pro Tyr Pro Leu Pro Lys Leu
                245                 250                 255

Asp Gln Val Ala Val Pro Asp Phe Ser Ala Gly Ala Met Glu Asn Trp
            260                 265                 270

Gly Leu Ile Thr Tyr Arg Glu Pro Ala Leu Leu Tyr Asp Pro Arg Ser
        275                 280                 285

Ser Thr Asn Ser Asn Lys Gln Arg Val Ala Ser Val Ile Ala His Glu
```

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    290                 295                 300

Leu Ala His Gln Trp Phe Gly Asn Leu Val Thr Met Lys Trp Trp Asp
305                 310                 315                 320

Asp Leu Trp Leu Asn Glu Gly Phe Ala Thr Tyr Leu Glu Tyr Leu Ile
                325                 330                 335

Thr Asp Glu Leu Gly Gly Glu Pro Thr Trp Asn Met Glu Ala Leu Phe
            340                 345                 350

Gly Leu Val Leu Gln Leu Ala Leu Ala Arg Asp Ala Leu Gly Ser Ser
        355                 360                 365

His Pro Ile Thr Val Glu Val Leu Thr Pro Ser Glu Ile Ser Asp Ile
    370                 375                 380

Phe Asp Ala Ile Thr Tyr Glu Lys Gly
385                 390


<210> 302
<211> 45
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:consensus
      sequence

<400> 302
Phe Gln Cys Ser Val Pro Pro Ser Glu Arg Ile Asn Cys Gly Pro Pro
  1               5                  10                  15

Gly Ile Thr Glu Ala Glu Cys Glu Ala Arg Gly Cys Cys Phe Asp Ser
             20                  25                  30

Ser Ile Ser Gly Val Pro Trp Cys Phe Tyr Pro Asn Thr
         35                  40                  45


<210> 303
<211> 224
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:consensus
      sequence

<400> 303
Val Ile Leu Phe Asp Leu Arg Gly Phe Gly Gln Ser Ser Pro Ser Asp
  1               5                  10                  15

Leu Ala Glu Tyr Arg Phe Asp Asp Leu Ala Glu Asp Leu Glu Ala Leu
             20                  25                  30

Leu Asp Ala Leu Gly Leu Asp Lys Val Ile Leu Val Gly His Ser Met
         35                  40                  45

Gly Gly Ala Ile Ala Ala Ala Tyr Ala Ala Lys Tyr Pro Glu Arg Val
     50                  55                  60
```

```
Lys Ala Leu Val Leu Val Ser Ala Pro His Pro Ala Leu Leu Ser Ser
 65                  70                  75                  80

Arg Leu Phe Pro Arg Asn Leu Phe Gly Leu Leu Leu Ala Asn Phe Arg
                85                  90                  95

Asn Arg Leu Leu Arg Ser Val Glu Ala Leu Leu Gly Arg Ala Leu Lys
            100                 105                 110

Gln Phe Phe Leu Leu Gly Arg Pro Leu Val Ser Asp Phe Leu Lys Gln
        115                 120                 125

Phe Glu Leu Ser Ser Leu Ile Arg Phe Gly Glu Asp Asp Gly Gly Asp
    130                 135                 140

Gly Leu Leu Trp Val Ala Leu Gly Lys Leu Leu Gln Trp Asp Val Ser
145                 150                 155                 160

Ala Asp Leu Lys Arg Ile Lys Val Pro Thr Leu Val Ile Trp Gly Asp
                165                 170                 175

Asp Asp Pro Leu Val Pro Pro Asp Ala Ser Glu Lys Leu Ser Ala Leu
            180                 185                 190

Phe Pro Asn Ala Glu Val Val Val Ile Asp Asp Ala Gly His Leu Ala
        195                 200                 205

Gln Leu Glu Lys Pro Glu Glu Val Ala Glu Leu Ile Leu Lys Phe Leu
    210                 215                 220
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<210> 304
<211> 255
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:consensus sequence

<400> 304

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Trp Gly Tyr Gly Val His Asn Gly Pro Glu His Trp Pro Leu Leu Tyr
  1               5                  10                  15

Pro Ile Ala Gly Gly Asp Arg Gln Ser Pro Ile Asn Ile Gln Thr Lys
             20                  25                  30

Lys Ala Arg Tyr Asp Pro Ser Leu Lys Pro Leu Ser Val Ser Tyr Tyr
         35                  40                  45

Ala Ala Thr Ala Lys Glu Ile Thr Asn Asn Gly His Ser Val Gln Val
     50                  55                  60

Glu Phe Asp Asp Ser Met Asp Lys Ser Val Leu Ser Gly Gly Pro Leu
 65                  70                  75                  80

Pro Ala Pro Tyr Arg Leu Lys Gln Phe His Phe His Trp Gly Ser Ser
                85                  90                  95
```

```
Asn Glu His Gly Ser Glu His Thr Val Asp Gly Val Lys Tyr Pro Ala
            100                 105                 110

Glu Leu His Leu Val His Trp Asn Ser Thr Lys Tyr Gly Ser Tyr Lys
        115                 120                 125

Glu Ala Gln Lys Lys Pro Asp Gly Leu Ala Val Leu Gly Val Phe Val
    130                 135                 140

Lys Val Gly Ala Glu Asn Pro Gly Leu Gln Lys Leu Val Asp Ala Leu
145                 150                 155                 160

Gln Asn Ile Lys Thr Lys Gly Lys Ser Ala Thr Phe Thr Asn Phe Asp
                165                 170                 175

Pro Ser Asp Leu Leu Pro Ala Leu Arg Asp Tyr Trp Thr Tyr Pro Gly
            180                 185                 190

Ser Leu Thr Thr Pro Pro Cys Thr Glu Ser Val Thr Trp Ile Val Leu
        195                 200                 205

Lys Glu Pro Ile Thr Val Ser Ser Glu Gln Leu Glu Lys Phe Arg Ser
    210                 215                 220

Leu Leu Phe Ser Val Glu Gly Glu Glu Glu Val Pro Met Val Asp Asn
225                 230                 235                 240

Tyr Arg Pro Thr Gln Pro Leu Lys Gly Arg Val Val Arg Ala Ser
                245                 250                 255


<210> 305
<211> 322
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence:consensus
      sequence

<400> 305
Pro Leu Phe Ser Arg Asp Glu His Arg Phe Ala Arg Ser Trp Ile Ala
  1               5                  10                  15

Trp Trp Ser Ala Leu Cys Phe Val Ser Thr Leu Phe Thr Val Leu Thr
             20                  25                  30

Phe Leu Ile Asp Trp Lys Arg Phe Arg Tyr Pro Glu Arg Pro Ile Phe
         35                  40                  45

Tyr Leu Ser Ala Cys Tyr Leu Ile Val Ser Val Gly Tyr Leu Ile Arg
     50                  55                  60

Phe Phe Leu Gly Arg Glu Glu Ile Ala Cys Arg Lys Ala Asp Gly Gly
 65                  70                  75                  80

Met Arg Thr Val Thr Gln Gly Ser Thr Glu Asn Leu Ser Cys Thr Val
                 85                  90                  95

Leu Phe Leu Leu Val Tyr Phe Phe Gly Met Ala Ser Ser Val Trp Trp
            100                 105                 110
```

```
Val Ile Leu Thr Leu Thr Trp Phe Leu Ala Ala Gly Leu Lys Trp Gly
        115                 120                 125

His Glu Ala Ile Glu Ala Lys Ser Ser Tyr Phe His Leu Val Ala Trp
    130                 135                 140

Gly Leu Pro Ala Val Leu Thr Ile Thr Val Leu Ala Leu Asn Lys Val
145                 150                 155                 160

Asp Gly Asp Pro Ile Thr Gly Ile Cys Phe Val Gly Asn Leu Asn Leu
                165                 170                 175

Asp Ala Leu Arg Gly Phe Val Leu Ala Pro Leu Cys Val Tyr Leu Val
            180                 185                 190

Ile Gly Thr Leu Phe Leu Leu Ala Gly Phe Val Ser Leu Phe Arg Ile
        195                 200                 205

Arg Ser Val Ile Lys Thr Gln Gly Thr Asn Thr Ser Lys Leu Glu Lys
    210                 215                 220

Leu Met Val Arg Ile Gly Val Phe Ser Leu Leu Tyr Thr Val Pro Ala
225                 230                 235                 240

Leu Ile Val Ile Ala Cys Tyr Phe Tyr Glu Gln Ala Asn Arg Asp Glu
                245                 250                 255

Trp Glu Arg Ser Trp Leu Asp Cys Ile Cys Cys Gln Tyr Gln Ile Pro
            260                 265                 270

Cys Pro Tyr Lys Asp Lys Ser Ser Asp Pro Glu Ala Arg Pro Pro Leu
        275                 280                 285

Ala Val Phe Met Leu Lys Tyr Phe Met Ser Leu Val Val Gly Ile Thr
    290                 295                 300

Ser Gly Val Trp Val Trp Ser Lys Lys Thr Leu Glu Ser Trp Arg Arg
305                 310                 315                 320

Phe Phe
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<211> 117
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<213> Artificial Sequence

<220>
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Arg Cys Glu Pro Ile Thr Leu Pro Leu Cys Lys Asp Leu Gly Tyr Asn
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Leu Thr Ser Met Pro Asn Leu Leu Gly His Thr Thr Gln Glu Glu Ala
             20                  25                  30

Gly Leu Glu Leu Ser Gln Phe Tyr Pro Leu Leu Asn Val Gln Cys Ser
         35                  40                  45
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Pro Asp Leu Arg Phe Phe Leu Cys Ser Val Tyr Ala Pro Val Cys Thr
50 55 60

Glu Asp Leu Pro Glu Pro Ile Leu Pro Cys Arg Ser Leu Cys Glu Ala
65 70 75 80

Ala Arg Glu Gly Cys Glu Pro Leu Met Glu Lys Phe Gly Phe Gly Trp
85 90 95

Pro Glu Phe Leu Arg Cys Asp Arg Phe Pro Val Gln Asn Glu Leu Cys
100 105 110

Met Asp Pro Val Pro
115